HAYPP

UK and Ireland longevity trends can be boosted by Swedish-style tobacco policies

Estimating the economic and welfare impacts of increased longevity in the UK and Ireland resulting from the adoption of Swedish-style tobacco policies.

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Summary

This study gives an insight into longevity trends of the UK and Ireland. The evolution of life expectancy is studied in England, Wales, Scotland, Northern Ireland, and Ireland, as well as in those regions that make up these nations. A comparison is made to the longevity trends in the European Union nations. For the four nations that make up the UK, Ireland, and the rest of the European Union nations, significant harm reduction benefits can be gained through reductions in smoking related death by adopting Swedish-style tobacco policies, leading to a shift away from smoking to alternatives such as snus and nicotine pouches.

A finding in this study is that European countries with lower expected lifespan for 50-years-old men have higher estimated protective effect of Swedish tobacco policy. The same also holds when looking at healthy life years. This is true for the UK and Ireland, as well as for the rest of Europe. According to these results, those European countries which have more to gain in terms of less smoking-related deaths have lower total lifespans and lower healthy lifespans. Thus, the benefits of adopting Swedish-style tobacco policies, leading to shift towards alternatives such as snus and nicotine pouches, would be greater in those parts of Europe where the total and healthy lifespan is currently lower.

The expected total lifespan of 50-year-old men is lowest in Scotland (79.7 years), followed by Wales (80.6), Northern Ireland (81.2), England (81.3), and Ireland (82.7). In Scotland, the total life-expectancy of 50-year-old men has risen by 0.02, in Wales by 0.01, and in England not at all, on average during the last ten years period. In Northern Ireland it has increased by 0.07 years annually, and in Ireland by 0.17 years annually.

For women who are 50-years-old the expected life-span is again lowest in Scotland (82.8 years), followed by Wales (83.8), Northern Ireland (84.0), England (84.7), and Ireland (85.7) again in the lead. The rate of increase of 50-years-old women's total expected life years is 0.14 years annually in Ireland, 0.04 in Northern Ireland, 0.03 in England, and 0.01 in Wales and Scotland.

Longevity is about extending the healthy life years, those where individuals are healthy and active, rather than more years in end of life with various forms of disability. For 50-year-old men, expected healthy life years is lowest in Scotland (70.2 years), followed by Wales (70.5), Northern Ireland (70.8), England (71.2), and Ireland (71.7). For women the pattern is somewhat different, with the highest rate of expected healthy life-years for the 50-year-old cohort in England (72.3 years), followed by Ireland (72.1), Northern Ireland (71.7), Scotland (71.4), and Wales (71.0).

Healthy expected life years of 50-years-old men has risen by 0.07 years annually in Ireland and by 0.04 years annually in Wales, during the last ten years period. It has however decreased by 0.02 years annually in England, by 0.03 years annually in Northern Ireland, and by 0.07 years annually in Scotland. For women, across the UK and Ireland, there is an even stronger trend of decreased healthy life expectancy. In England 50-year-old women´s expected healthy life has decreased by 0.01 years annually, during the latest ten years on average, while the rate of decrease has been 0.02. years annually in Wales, 0.04 years annually in Northern Ireland as well as in Ireland, and 0.08 years annually in Scotland. There is a strong need to boost healthy life years in the UK. Adopting Swedish-style tobacco policies could contribute to that goal.

This study provides a unique estimate of total public and private health spending per capita, in the five nations that make up the UK and Ireland. The highest level is equivalent to £5 810 in public and private health expenditure per capita in Ireland, followed by £4 580 in Wales, £4 550 in Northern Ireland, £4 520 in England, and £4 500 in Scotland. Ireland has higher total health expenditure and correspondingly higher total life-expectancy and more healthy life-years. For the four nations of the UK, total private and public health expenditure has small variation, since those nations with somewhat higher per capita public expenditure are estimated to have somewhat less private health expenditure.

England has nearly two years more in expected total life-span for 50-year-olds, in average for both sexes, compared to Scotland, and slightly higher than Wales and Northern Ireland. For healthy life-years of 50-year-olds, Ireland has only a slight lead to England. Northern Ireland has around half a year in healthy life-expectancy less than England, while Scotland and Wales have around one healthy life year less for 50-year-olds, on average for both sexes. In Europe as a whole, total expected lifespan and healthy expected lifespan of 50-year-old individuals

tends to be higher in countries with more health expenditure per individual, and lower in those with higher smoking-rates. For the four nations that make up the UK, total expected life-span and healthy expected life-span of 50-year-olds is lower in nations with higher smoking rates. However, total health expenditure per inhabitant has a smaller positive relation to total expected life-span and none to healthy expected life-span in comparison of the four UK nations.

In this study the value added to the economy with additional healthy life years for 50-year-old individuals is calculated. Given the assumption that half of this extra time would go to work and half to leisure, the benefit can be calculated on economic productivity. Healthy elderly play a key role in the economy through work, but also entrepreneurship and investment. The economic stimulus of each healthy life year is estimated at £35 620 for each average 50-year-old in England, compared to £32 200 in Scotland, £29 570 in Northern Ireland, and £25 860 in Wales. In Ireland, the rate is fully £84 920.

Socioeconomic benefits of longevity are higher in regions with more contribution to economic output, GDP, per adult. In the London area the economic stimulus of each healthy life year is as high as £60 930 , compared to £60 430 in Edinburgh, £49 840 in Belfast and £33 310 in Cardiff. If the healthy life years of the cohort of 50 years olds in the nations of the UK would improve, then circa 15 years from now when at the decision of early or late retirement, on the margin a significant effect can be created by one more healthy life year. In the UK and Ireland as a whole, the economic value of the latest cohort of 50-years-olds having one more healthy life year, is fully £35.2 billion extra in value added. This is through more work and enterprise carried out in 15 years from now, when the individuals who are now 50 years old are making the decision to go in early retirement, or work extra part time after the retirement age. For the four nations that make up the UK the figure is £28.9 billion.

Additionally, the welfare benefit of each additional healthy lifespan year is calculated. The calculation is based on estimating total health care expenditure in each country per capita and multiplying this with an average lifespan to get investment per capita over lifespan in health, then dividing this by the current estimated number of healthy life years. The result is an estimate of how much in each country is spent through different forms of funding on health, over a course of a lifespan, to achieve a certain number of healthy life years. Through this, the marginal welfare value of each additional healthy life year can be estimated. This welfare

benefit ranges between £5 230 in England, to £6 810 in Ireland, £5 320 in Wales, £5 280 in Northern Ireland, and £5 160 in Scotland.

In total for the five nations of the UK and Ireland, the welfare gain is £4.9 billion, if the 50-year-old cohort would have one more healthy life year for the average individual. This would mean that during the coming years until retirement, health outcomes improve so that on the margin one more healthy life year is created for the individuals who today are 50 years old. The value is £4.3 billion for the four nations that form the UK. The welfare gain value is an alternative cost, in form of an estimate of how much healthy life years are worth in relation to how much is currently invested in total health expenditure to achieve a certain number of healthy life years.

Modern research on health and biotechnology show that while nicotine pouches and snus do have impacts on health, they are less harmful options than smoking of tobacco. In a time characterized by significant longevity trends tobacco policies in line with the Swedish model that encourage a shift to less harmful options, primarily nicotine pouches, can be part of the solution. A finding in nutrition research is that the optimal diet for individuals can have small elements of not optimally healthy foods. In the same way a lifestyle can be less harmful with alternative nicotine products that reduce smoking and lead to less poor health related to smoking.

Swedish-style tobacco policy is relevant, since Sweden is the country with lowest rate of smoking in the EU, and in comparison, with other developed OECD nations. Sweden recently reached under 5 percent of adults as smokers, thus becoming officially the first smoking-free OECD country (less than 5 percent smoking). The successful Swedish policies is based on high taxes on smoking products combined with availability and less heavy taxation of nicotine alternatives, in the form of snus and nicotine pouches. The UK governments latest call for evidence on tobacco and vapes does however not have focus on how nicotine pouches can be a better alternative to smoking of tobacco. UK legislation, and the EU legislation that affects Ireland, have good reasons to learn from the European best-practice, from the developed economy with lowest smoking of tobacco rates. Learning from the Swedish experience allows for implementation of evidence-based policies that can boost longevity trends in the UK and Ireland.

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Introduction

Longevity is one of the great megatrends of our time. Many countries have a strong increase in the healthy life years before various forms of disability hinder the individual. The evolution of biotechnology allows for gradual as well as radical longevity, with greater understanding of how the various internal cellular repair mechanisms can be activated. Longevity is particularly relevant for the four nations that make up the UK, since they are lagging in the evolution of total life-years and healthy life-years. While preventive health care and cellular rejuvenation are making strides, there remains significant health challenges brought on by lifestyle choices. Smoking of tobacco is a key lifestyle choice that is detrimental to human health around the world. Nicotine alternatives such as snus and nicotine pouches play a key role in reducing smoking habits, as exhibited by the development in Sweden. In the UK, which has lately had a stagnating development of total and healthy life years, the potential harm reduction benefits of shifting to alternatives to nicotine, primarily nicotine pouches, is relevant.

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Sweden relies on a tobacco policy with relatively high taxes and regulations on smoking of tobacco, combined with ample alternative options in the form of snus and nicotine pouches, which are less heavily taxed since they do not impact health in same way and magnitude as smoking of tobacco. The approach is based on harm reduction, rather than outright bans or relying solely on information campaigns. As discussed in this study, this unique policy mix has allowed Sweden to become the developed OECD nation with lowest prevalence of smoking of tobacco, which creates significant harm reduction benefits. The tobacco policies of the UK as

well as the member states of the European Union, could benefit from adapting to the Swedish style – so more could switch to alternatives such as nicotine pouches, with improved general health as the result.

This study gives insight into longevity trends of the five nations that make up the UK and Ireland, namely the four nations of the UK which are England, Wales, Scotland, and Northern Ireland, alongside the nation of Ireland. The study includes an estimate of the societal benefits of one more healthy life year. If those who are today 50 years old, gain one additional life-year during the circa 15 years that they have left until the typical retirement age, fewer are likely to go into early retirement, and more are likely to work additional years after the retirement age. Longevity has a strong relationship with work, as people age more healthily typically many desire to keep working, even after they qualify for pensions. A trend is that policymakers gradually strengthen financial incentives for combining pensions income with part time work. In the coming years this trend will continue, since it is vital for the long-term survival of pensions systems greater incentives will be created for keeping working part time even after retirement. This study assumes that each additional healthy life year corresponds to half that time spent on work, half on leisure through pension.

Those who are 50-year-old or above play a key role in society as experienced workers, make up a significant share of managers, entrepreneurs and investors. Healthier ageing which allows more to keep working part time even after the pensions age, creates a significant economic boost to economic output. This study also includes a measure of the welfare gain of one additional healthy life year amongst the typical individual in the cohort of 50-year-olds, in each country of the UK and Ireland. This welfare gain is an alternative cost estimate, comparing how much currently in each nation is invested in total in public and private health expenditure per individual, and how many healthy life years 50-year-old individuals on average can expect.

The benefits of adopting Swedish-style tobacco policies are, as shown in this study, most beneficial for reducing mortality amongst 35 years plus men in those nations that are lagging in expected total lifespan, and in expected healthy life years. Europe has much to gain in health by adopting Swedish-style tobacco policies, the benefits will be particularly strong in the nations currently lagging in life expectancy. This is true for the five nations that make up the UK and Ireland, as well as in the rest of Europe.

Total and private health expenditure has limited variance in the four nations of the UK, but smoking prevalence differs. Life expectancy in total and for healthy life-years is lower in those parts of the UK which have more smoking prevalence. Adopting Swedish-style tobacco policies can likely lead to greater longevity gains mainly in those parts of the UK which have currently lower expected life-spans, since those tend to be characterized by more smoking of tobacco products.

Evolution of longevity in Europe and the UK and Ireland

There are significant differences in longevity across Europe, as shown in table 1. In Cyprus and Sweden, 50-year-old men can expect to live on average a total of 83.2 years, the highest in comparison of the European countries included in this study. The lowest level is 74.6 years in Latvia. Amongst the five nations that make up the UK and Ireland, the highest total life-expectancy of 50-year-old men is 82.7 years in Ireland, followed by 81.3 years in England, 81.2 in Northern Ireland, 80.6 in Wales, and 79.7 in Scotland. Ireland has had an increase on average of 0.2 years annually, during the latest ten years, while the rate of increase has been 0.1 years annually in Northern Ireland. England, Wales, and Scotland have not had any change in the expected total life-span of men during the latest ten years period.

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We live a time characterized by unprecedented development in longevity, including for the first time understanding in-depth and encouraging the cellular level mechanisms that exist for repairing DNA and its superstructure, and other cellular repair pathways. Longevity and the evolution of longevity are important in themselves, and indicators of what parts of Europe are prospering most. Additional life years, particularly healthy such, are a key indicator of societal success.

In the European Union nations, all have during the last ten years period experienced some increase in the 50-year-old men's expected lifespan, although the rate of increase in Greece, Germany and Bulgaria is negligible. The fastest rate of increase has occurred in Lithuania, where the life-expectancy of 50-year-old men has increased by 0.24 years annually. Belgium

and. Slovakia have also had strong rates of increase, around 0.2 years annually. The slowest rate of growth is in Greece, where the total life-expectancy of 50-year-old men has increase only by 0.03 percent annually during the last 10 years period. In Scotland, the total life-expectancy of 50-year-old men has risen by 0.02, in Wales by 0.01, and in England not at all, on average during the last ten years period. In Northern Ireland it has increased by 0.07 years annually, and in Ireland by 0.17 years annually.

For women, as shown in table 2, total expected total lifespan of 50-year-old women ranges from 81.2 years in Hungary to 87.6 years in Spain. In comparison of the five nations of the UK and Ireland, the highest life-expectancy for 50-year-old women is highest in Ireland where it is 85.7 years, followed by 84.7 years in England, 84.0 years in Northern Ireland, 83.8 years in Wales, and 82.8 years in Scotland.

The lifespan of 50-year-old-women has over the past ten years grown by merely 0.01 years annually, in France, Italy and the Netherlands. On the other end of the spectrum, Lithuania has had the fastest growth-rate of 0.18 years annually. A clear trend is that 50-year-old men are gradually catching up to 50-year-old women in total life years. The rate of increase is 0.14 years annually in Ireland, 0.04 in Northern Ireland, 0.03 in England, and 0.01 in Wales and Scotland. Overall, the four nations of the UK lag behind in the European longevity development, this is true also for healthy life years as shown in the next chapter.

Table 1. 50-year-old men´s expected lifespan, and change over time		
	Men's middle-age lifespan - expected total lifespan for 50-year-old men	Men's middle-age longevity trend - change in expected lifespan at 50 for men, annual rate of change past 10 years
England	81.3	0.00
Wales	80.6	0.01
Scotland	79.7	0.02
Northern Ireland	81.2	0.07
Ireland	82.7	0.17
EU comparison		
Cyprus	83.2	0.15
Sweden	83.2	0.14
Malta	82.9	0.15
Italy	82.8	0.09
Spain	82.7	0.10
Luxembourg	82.4	0.10
France	82.3	0.10
Belgium	82.1	0.20
Netherlands	82.0	0.09
Denmark	81.4	0.14
Portugal	81.4	0.16
Austria	81.3	0.08
Greece	81.1	0.03
Finland	81.1	0.09
Slovenia	80.8	0.16
Germany	80.4	0.04
Czechia	79.0	0.16

Croatia	77.7	0.09
Slovakia	77.6	0.19
Poland	77.5	0.13
Estonia	77.3	0.13
Lithuania	76.1	0.24
Hungary	75.6	0.09
Romania	75.6	0.05
Bulgaria	75.2	0.04
Latvia	74.6	0.09

Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, and own analysis.

Table 2. 50-year-old women´s expected lifespan, and change over time

	Women's middle-age lifespan - expected total lifespan for 50-year-old women	Women's middle-age longevity trend - change in expected lifespan at 50 for women, annual rate of change past 10 years
England	84.7	0.03
Wales	83.8	0.01
Scotland	82.8	0.01
Northern Ireland	84.0	0.04
Ireland	85.7	0.14
EU comparison		
Spain	87.6	0.05
France	87.1	0.01
Italy	86.4	0.01

Portugal	86.4	0.12
Cyprus	86.3	0.07
Malta	86.2	0.10
Luxembourg	86.0	0.07
Sweden	86.0	0.11
Slovenia	85.8	0.10
Belgium	85.7	0.11
Greece	85.4	0.02
Finland	85.4	0.03
Austria	85.3	0.04
Estonia	84.8	0.16
Denmark	84.7	0.12
Germany	84.6	0.04
Netherlands	84.5	0.01
Czechia	84.0	0.15
Lithuania	83.6	0.18
Poland	83.6	0.09
Croatia	83.0	0.07
Slovakia	83.0	0.12
Latvia	82.4	0.12
Romania	82.1	0.13
Bulgaria	81.5	0.08
Hungary	81.2	0.05

Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, and own analysis.

Healthy life years in the UK and Ireland and Europe

An important metric which is central for longevity is healthy life years. Longevity is not about extending the unhealthy life years at the end of life, but rather about encouraging more healthy life years. Healthy life years is a measure of the average years expected for the individual before various forms of unhealth lead to disabilities.

In table 3 the healthy expected lifespan of 50-year-old men across the UK and Ireland, and the nations of the European Union, are shown. Men who are 50 years old can look towards a total of 61.1 healthy life years in Latvia, which has the lowest rate amongst the European countries in this study. Malta and Sweden have the highest rates, 74.5 years of expected disability free health on average for 50-years-old men.

Healthy life expectancy for 50-year-old men has during the latest ten years period increased in some and decreased in some European Union nations. Slovenia and Italy have had strong increases of healthy life years, circa 0.5 years increase annually during the past ten-year period. Denmark, Luxembourg, Portugal, Netherlands, Cyprus, Romania, Czechia, and Spain have had a reduction in healthy lifespan for 50-year-old men during the past 10 years.

In the UK and Ireland, for 50-year-old men, expected healthy life years is highest in Ireland with 71.7 years, followed by 71.2 in England, 70.8 in Northern Ireland, 70.5 in Wales, and 70.2 in Scotland. It has risen by 0.07 years annually during the past ten years period in Ireland, and by 0.04 years annually in Wales. It has however decreased by 0.02 years annually in England, decreased by 0.03 years annually in Northern Ireland, and by 0.07 years annually in Scotland.

In table 4 data on longevity for 50-year-old women across Europe is shown. Women who are 50-years-old men can expect to have a total of 62.5 healthy life years in Latvia, which is the lowest rate in Europe This can be compared to 74.2 years in Sweden, and 74 years in Malta, which are the highest rates. Denmark, Portugal, Luxembourg, Czechia, Malta and Romania

have had a negative trend in women´s healthy life expectancy, the past 10 years, while Ireland has had a small negative trend. Slovenia and Italy have had an increase of 50-year-old women´s expected healthy lifespan of fully 0.6 years annually, over the past 10 years period.

> ***"Across the UK and Ireland for women who are 50-years-old, there is a trend of decreased healthy life expectancy."***

In England 50-year-old women´s expected healthy life has decreased by 0.01 years annually, in Wales decreased by 0.02 years annually, in Northern Ireland decreased by 0.04 years annually, and in Scotland decreased by fully 0.08 years annually. Across the UK and Ireland for women who are 50-years-old, there is a trend of decreased healthy life expectancy.

Table 3. 50-year-old men´s expected healthy lifespan, and change over time

	Men's middle-age healthy lifespan - expected total healthy life years for 50-year-old men	Men's middle-age healthy life trends - change in expected healthy life years at 50 for men, annual rate of change past 10 years
England	71.2	-0.02
Wales	70.5	0.04
Scotland	70.2	-0.07
Northern Ireland	70.8	-0.03
Ireland	71.7	0.07
EU comparison		
Malta	74.5	0.03
Sweden	74.5	0.14

Italy	72.3	0.48
Belgium	70.8	0.05
Bulgaria	70.3	0.22
Slovenia	70.0	0.51
France	69.9	0.08
Greece	69.4	0.13
Spain	69.3	-0.02
Cyprus	68.7	-0.08
Luxembourg	68.5	-0.13
Portugal	68.1	-0.10
Finland	67.9	0.11
Denmark	67.8	-0.19
Netherlands	67.8	-0.09
Germany	67.5	0.30
Austria	67.5	0.03
Poland	67.5	0.22
Czechia	66.9	-0.04
Hungary	66.3	0.22
Lithuania	65.2	0.13
Croatia	64.7	0.12
Estonia	64.3	0.23
Romania	63.5	-0.07
Slovakia	62.7	0.14
Latvia	61.1	0.02

Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, and own analysis.

Table 4. 50-year-old women´s expected healthy lifespan, and change over time

	Women's middle-age healthy lifespan - expected total healthy life years for 50-year-old women	Women's middle-age healthy life trends - change in expected healthy life years at 50 for women, annual rate of change past 10 years

England	72.3	-0.01
Wales	71.0	-0.02
Scotland	71.4	-0.08
Northern Ireland	71.7	-0.04
Ireland	72.1	-0.04
EU comparison		
Sweden	74.2	0,08
Malta	74.0	-0.09
Bulgaria	73.6	0,27
Italy	72.6	0.56
Slovenia	72.3	0.61
France	71.1	0.05
Belgium	70.8	0.04
Greece	70.0	0.24
Cyprus	69.7	0.08
Poland	69.5	0.22
Spain	69.3	0.06
Luxembourg	68.6	-0.13
Austria	68.5	0.10
Germany	68.3	0.34
Finland	68.2	0.08
Hungary	67.9	0.32
Lithuania	67.8	0.18
Denmark	67.5	-0.38
Netherlands	67.4	0.03
Czechia	67.3	-0.12
Estonia	66.6	0.30
Portugal	66.5	-0.18
Croatia	65.9	0.13
Slovakia	63.7	0.26
Romania	62.7	-0.05
Latvia	62.5	0.10

Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, and own analysis.

Health effect of Swedish-style tobacco policies

There is good reason to take inspiration from Sweden's regulation of tobacco and nicotine products. This country has good health outcomes, notably without having the benefit of a Mediterranean climate, food, and lifestyle. One reason amongst others is that tobacco policy and habits in Sweden have led to a significant shift away from smoking in favour of other nicotine options, mainly snus and nicotine pouches. Similar nicotine pouch products are gaining attention currently also in the USA, as alternatives with less negative health effects than smoking.[1]

According to the European Commission, tobacco consumption is the single largest avoidable health risk on an individual level, and the most significant cause of premature death in the EU on a societal level. Smoking is responsible for nearly 700,000 deaths every year in the Union. Around half of smokers die prematurely, on average 14 years earlier.[2] Sweden has the lowest rate of smoking in the EU.[3]

A goal set by the European Union and several countries is to become smoke-free, which is defined by lowering tobacco smoking to less than 5 percent of the population. Europe's Beating Cancer Plan aims to reach this level by 2040. A similar process in the US aims to reduce smoking prevalence to 6.1 percent of the population or lower by 2030. In 2023, the UK government introduced the smokefree 2030 ambition for England. The government expressed the aim of becoming "smokefree" by 2030, defined as having adult smoking prevalence falling to 5 percent or less.[4]

[1] Nicotine Insider (2025).
[2] European commission (2025b).
[3] Eurostat (2022).
[4] House of Commons Library (2023).

Sweden has recently become the world's first smoke-free country. The key to Sweden's current lower smoking rates lies in the widespread use of snus and nicotine pouches as substitutes for smoking, combined with higher cigarette taxes.

This policy offers smokers viable choices beyond merely quitting or continuing to smoke. A previous study has looked at how much tobacco-related deaths amongst 35+ years men could be affected if other European nations adopted Swedish-style tobacco policies.[5] The focus is on men at this age, since the smoke-reducing effect of snus and nicotine pouches has been particularly strong for men. In table 5 the results are shown. The effect ranges from a reduction of 35 percent in Finland and Ireland, and upwards of 87 in Bulgaria, of smoking-related deaths of 35+ year-old-men if Swedish style tobacco policies were adopted. In the four nations that make up the UK, Scotland stands out since in this nation fully 63 percent reduction of tobacco-related deaths amongst 35+ years men is estimated to be achieved by adopting Swedish-style tobacco policies. The corresponding rates for the other UK and Ireland nations are 60 percent in Northern Ireland, 57 percent in Wales, 53 percent in England, and 35 percent in Ireland.

In figure 1 the relationship between potential reduction in smoking-related deaths amongst 35+ years old men and total expected life years amongst 50-year-old men is shown. European countries with lower expected lifespan for 50-years-old men have higher estimated protective effect of Swedish tobacco policy. Figure 2 studies the relation to healthy life years and finds the same results.

"For the UK nations the total expected lifespan and the healthy expected lifespan of 50-year-old is strongly related to tobacco smoking rates, but to a limited degree linked to total health expenditure. The patterns point to smoking being a key determinant of longevity in the UK."

[5] Lakeville (2025b).

Those European countries which have more to gain in terms of less smoking-related deaths have lower healthy lifespans. The benefits of Swedish-style tobacco policies on reduction of smoking-related death amongst 35+ years old men would be greater in those parts of Europe where the total and healthy lifespan is currently lower. This analysis is conducted for men, while information on women's health is not included, it is likely that similar trends of different magnitude exist also for women. Those countries in which men tend to smoke tobacco products more, tend also to have higher rates of women smokers.

For the four UK nations, as well as for the EU-nations, longevity in terms of total and healthy expected life-years for the average 50-year-old, can be compared with health spending rates and with tobacco smoking rates. Figure 3 shows the relation between life expectancy and health expenditure. Total life expectancy as well as healthy life expectancy of 50-year-old individuals tends to be higher in those European countries which have higher health expenditure. Figure 4 shows the relation with smoking. European countries with higher rates of smoking have lower total healthy life expectancy, and lower total life expectancy, amongst 50-year-old individuals. Smoking of tobacco is a major influencer of lifespan, including healthy lifespan which is the focus of longevity. For the UK nations, as shown in figures 5 and 6, the total expected lifespan and the healthy expected lifespan of 50-year-old is strongly related to tobacco smoking rates, but to a limited degree linked to total health expenditure. The patterns point to smoking being a key determinant of longevity in the UK.

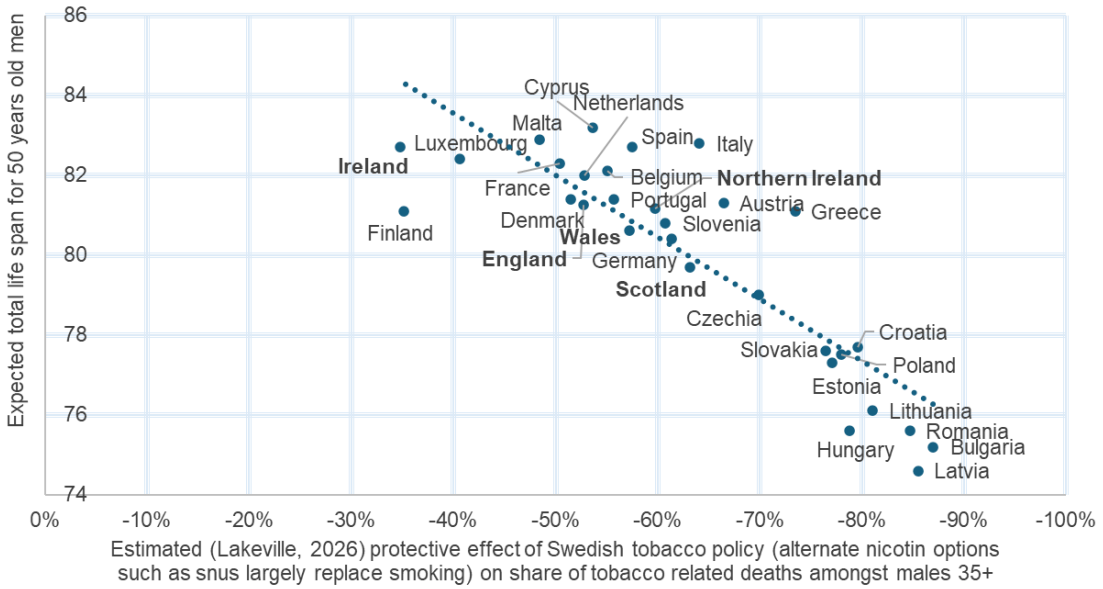
Table 5. Protective effect of Swedish tobacco policy on male 35+ smoking-related mortality

An estimate of how much Swedish-style tobacco policies, leading to shift from smoking to options such as snus and nicotine pouches, would reduce smoking-related mortality

	Estimated (Lakeville, 2026) protective effect of Swedish tobacco policy - alternate nicotine options such as snus and nicotine pouches largely replace smoking on share of tobacco related deaths amongst males 35+ years old
Bulgaria	-87%
Latvia	-86%
Romania	-85%
Lithuania	-81%
Croatia	-80%
Hungary	-79%
Poland	-78%
Estonia	-77%
Slovakia	-76%
Greece	-73%
Czechia	-70%
Austria	-66%
Italy	-64%
Scotland	-63%
Germany	-61%
Slovenia	-61%
Northern Ireland	-60%
Spain	-57%
Wales	-57%
Portugal	-56%
Belgium	-55%
Cyprus	-54%
Netherlands	-53%
England	-53%
Denmark	-51%
France	-50%
Malta	-48%
Luxembourg	-41%
Finland	-35%
Ireland	-35%

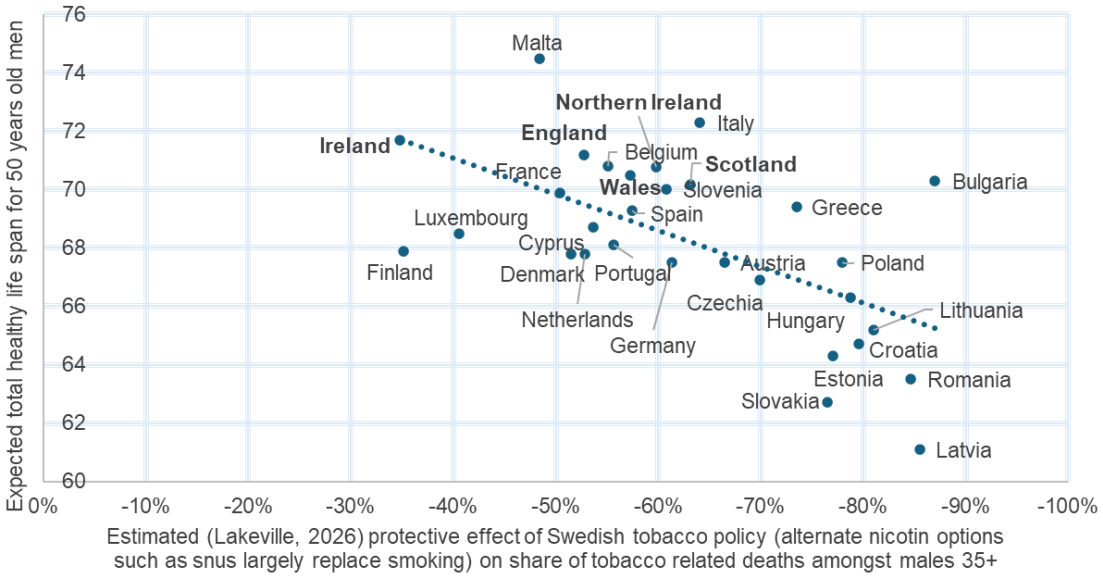
Source: Lakeville (2026) and own calculations.

Figure 1. European countries with lower expected **total life span** for 50-years-old men have higher estimated protective effect of Swedish tobacco policy



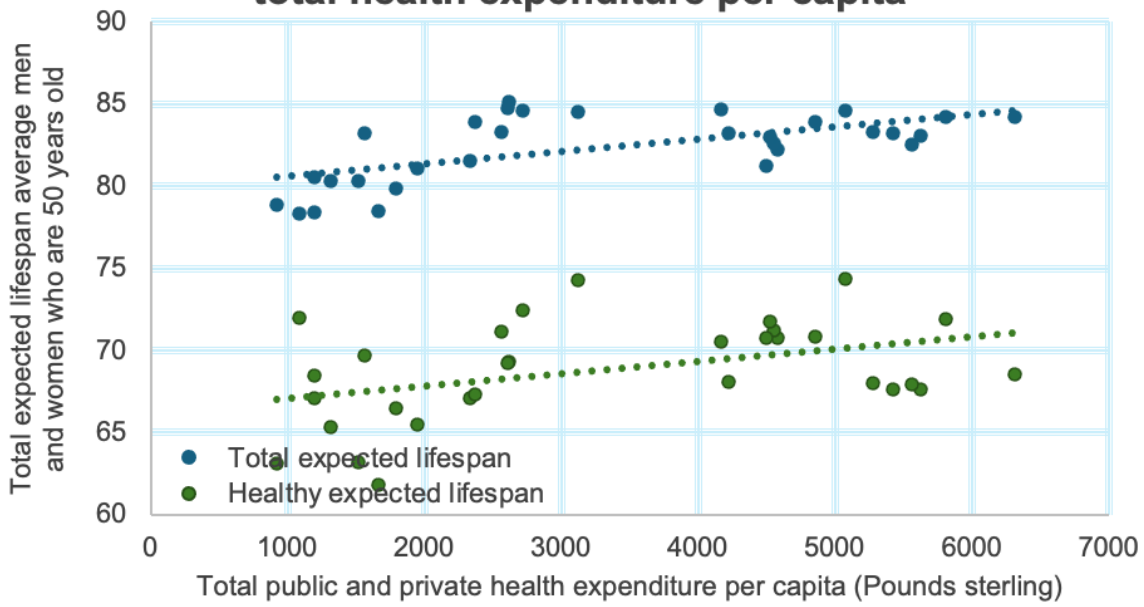
Sources: Lakeville (2026), Eurostat and own calculations.

Figure 2. European countries with lower expected **healthy life span** for 50-years-old men have higher estimated protective effect of Swedish tobacco policy



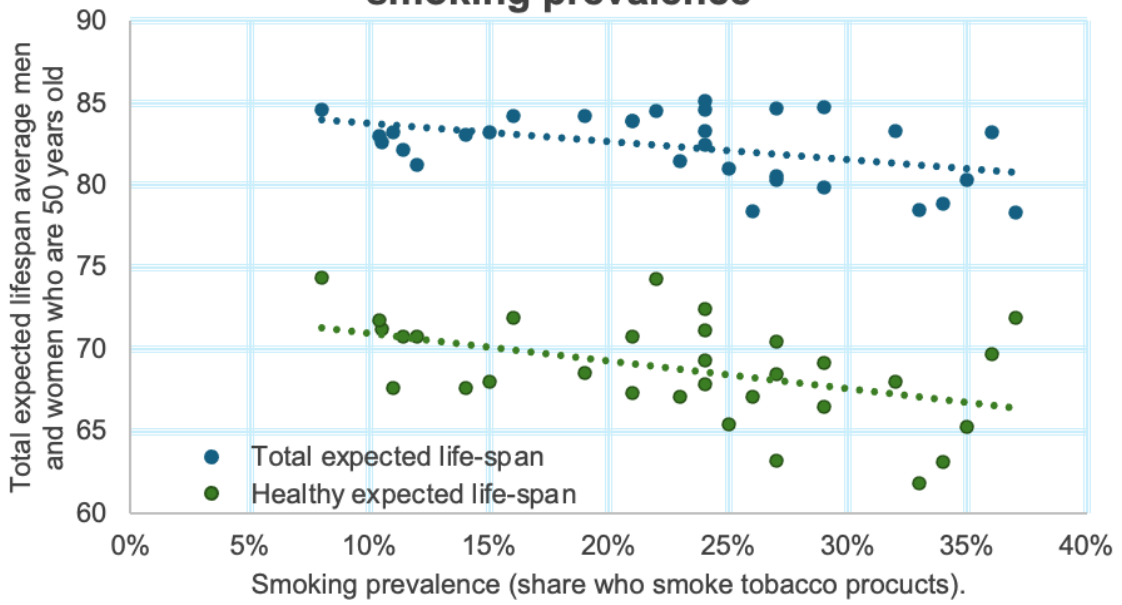
Sources: Lakeville (2026), Eurostat and own calculations.

Figure 3. Total expected life-span and heatlhy life-span for 50 year olds (average men and women) and **total health expenditure per capita**



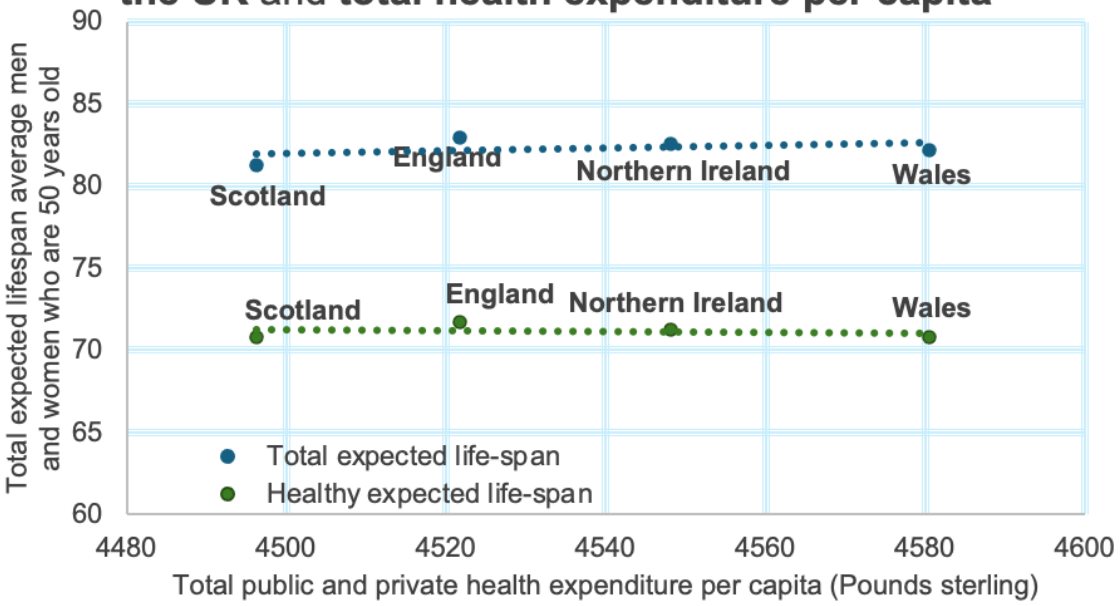
Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, World Bank, BMA, European Central Bank, and own analysis. UK data is for 18 years + individuals while EU-nations data is for 15 years + individuals.

Figure 4. Total expected life-span and heatlhy life-span for 50 year olds (average men and women) and **smoking prevalence**



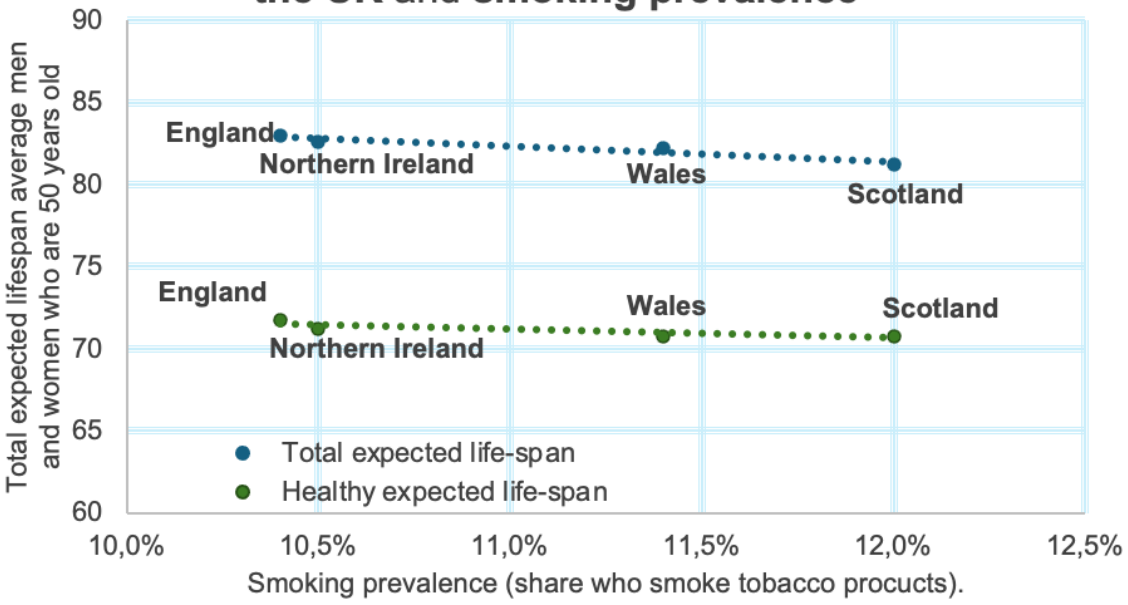
Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, World Bank. UK data is for 18 years + individuals while EU-nations data is for 15 years + individuals.

Figure 5. Total expected life-span and heatlhy life-span for 50 year olds (average men and women) **in the UK** and **total health expenditure per capita**



Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, World Bank, BMA, European Central Bank, and own analysis.

Figure 6. Total expected life-span and heatlhy life-span for 50 year olds (average men and women) **in the UK** and **smoking prevalence**



Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, World Bank.

Economic benefits of each extra healthy life year

In this study firstly, the value added to the economy with additional healthy life years for 50-year-old individuals is calculated. The assumption is made that each additional healthy life years leads to half this time being spent on the labour market and half spent on leisure. Healthy elderly individuals play a key role in boosting economic output, through labour, investments, and entrepreneurship.

For each country and region in the country, the value added to GDP per working age adult is calculated, with measure of working age adults on national level. The societal value of each healthy life year is calculated as half a working age adult's contribution to GDP. This is an estimate of how more healthy life years can boost economic output. National level data is shown in table 6. The economic stimulus of each healthy life year is estimated to range between £25 860 per individual and healthy life year in Wales, to £35 620 in England. Ireland has a considerably higher rate, with a surge of GDP as much international investments flock to the country.

The analysis of socioeconomic benefits of one more healthy life year assumes that half of the extra healthy life years gained are spent on the labour market, with the same labour market outcomes in terms of contribution to work and entrepreneurship as the average working age adult. The result is economic output growing with the equivalent of half the GDP per adult of working age, since half the time gained by more healthy life years is expected to go to leisure and half being active in work and entrepreneurship. This effect is calculated for the cohort in each European country that is currently 50-years old. In circa 15 years from now, when individuals in the group are around or close to the retirement age, in countries with more evolution of healthy life years, less are likely to go into early retirement and more likely to work after the otherwise retirement age.

"Across the UK and Ireland, the economic value of the latest cohort of 50-years-olds having one more healthy life year is fully £35.2 billion. This represents additional economic output being created, more work and enterprise carried out 15 years from now, when the individuals who are now 50 years old are making the decision to retire."

The age-distribution of Europe's workforce has over the past decades shifted towards older workers, a process expected to accelerate in the years ahead.[6] There is a strong relationship in Europe between working life expectancy and expected healthy lifespan. The potential exists for expansion of working years beyond current levels as the population experiences healthy ageing. Due to differences in good health years outcomes amongst the population, policies that encourage work after the average retirement age needs to be flexible. Policies should aim to create incentives for working longer, while maintaining early pensions options, and also encouraging combining work combined with pension.[7]

Across the UK and Ireland, the economic value of the latest cohort of 50-years-olds having one more healthy life year is fully £35.2 billion. This represents additional economic output being created, more work and enterprise carried out 15 years from now, when the individuals who are now 50 years old are making the decision to retire. For the four nations that make up the UK the figure is £28.9 billion.

[6] Aivar & Ebeke (2017).

[7] Weber & Loichinger (2022).

The evolution of healthy life years tends to be stronger for more educated individuals, who are also on average more productive. The effect is on the increased productivity in the economy 15 years in the future yet is calculated in today's productivity values. Due to these assumptions, the value estimate is on the lower side, it is a cautious estimate on the societal benefits of one more healthy life year.

Table 6. Socioeconomic value of each additional healthy life-year for 50-year-old individuals

A measure of value-added growth by more work, investments, and entrepreneurship by healthy elderly

	Value added to gross regional product per half a healthy year extra on the labour market, **£ per capita and year - value added from each extra healthy life year if half is spent working.**	Cohort of 50-year-olds	Value added to gross regional product per half a healthy year extra on the labour market, **for each individual (on average) amongst the latest 50-year-old cohort - million £**
England	35 620	703 813	25 070
Wales	25 859	36 564	945
Scotland	32 195	66 682	2 147
Northern Ireland	29 569	24 016	710
Ireland	84 917	74 872	6 358
Sum 5 UK and Ireland Nations		**905 947**	**35 230**

Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, European Central Bank, and own analysis.

Welfare benefits of each extra healthy life year

The welfare benefit of each additional healthy lifespan year is also estimated in this study. The welfare measure is a calculation of how much each extra healthy year is worth, given the logic of how much is already being invested over the lifetime of an average individual, to gain a certain number of healthy life years.

This analysis is based on estimating total health care expenditure in each country per capita and multiplying this with an average lifespan to get investment per capita over lifespan in health, then dividing the value by the current estimated number of healthy life years. Through this calculation, the marginal welfare value of each additional healthy life year can be estimated.

> ***"In total for the five nations of the UK and Ireland, the welfare gain is £4.9 billion, if the 50-year-old cohort would have one more healthy life year for the average individual."***

The results are shown in table 7. The welfare benefit of each additional healthy life year for a 50-year-old individual ranges between £6 810 in Ireland, with high health expenditure combined privately and publicly, to £5 160 in Scotland which lags behind. While public health expenditure per capita is slightly higher in Scotland than in England, in total health expenditure including private is estimated to be somewhat higher in England. The welfare benefit of each additional healthy life year for a 50-year-old individual is thus £5 230 in England. The highest rate in the UK is £5 320 in Wales, compared to £5 280 in Northern Ireland.

In total for the age cohort who is 50 years old, the total welfare benefit for one additional healthy life year on average for each can be calculated. This estimate looks at the benefit of one average additional healthy life year for the typical individual who is 50 years old, and then also all who are in the current cohort of 50-years-olds.

In total for the five nations of the UK and Ireland, the welfare gain is £4.9 billion, if the 50-year-old cohort would have one more healthy life year for the average individual. It is £4.3 billion for the four nations that form the UK. This would mean that during the coming circa 15 years until retirement, health outcomes improve so that on the margin one more healthy life year is created for the individuals who today are 50-years-old. The value is an alternative cost, that is to say an estimate of how much healthy life years are worth in relation to how much is currently invested in total health expenditure to achieve a certain number of healthy life years.

There are close to one million inhabitants in the UK and Ireland in the latest 50-year cohort. The welfare benefits of one more healthy life year is substantial for 50-year-olds, it can be achieved through factors such as more sports activity, changes in smoking and alcohol consumption habits, dietary changes, and modern longevity solutions.

Table 7. Welfare benefit of each extra healthy life year

A measure of the welfare value of each healthy additional year, by analysing how much society currently invests over the lifespan for each healthy life year

	Welfare benefit of one more healthy life year how many, **£ per capita spent over total expected lifespan for each healthy life year**	Cohort of 50-year-olds	Welfare benefit of one more healthy life year for each individual (on average) **amongst the latest 50-year-**

			old cohort - million £
England	5 229	703 813	3 680
Wales	5 320	36 564	195
Scotland	5 160	66 682	344
Northern Ireland	5 275	24 016	127
Ireland	6 805	74 872	509
Sum 5 UK and Ireland Nations		**905 947**	**4 855**

Sources: UK Office for National Statistics, Eurostat, National Records of Scotland, European Central Bank, and own analysis.

Smoking, nicotine and cellular health

Healthy ageing as defined by the World Health Organization, focuses on the maintenance of intrinsic capacity, physical, mental, and social well-being throughout life. The concept of healthy ageing highlights the importance of preventive healthcare, proper nutrition, good lifestyle, and regular physical activity in delaying the onset of chronic conditions and maintaining functional independence.[8] Diet plays a key role alongside other lifestyle choices, with the pattern of Mediterranean countries having long healthy lifespans also matching the observation that Mediterranean style diet has health advantages.[9]

Similarly, nicotine product consumption is relevant for health outcomes. For some individual's abstinence might be the solution, for others to find more healthy options to smoking. Nicotine pouches are relevant as less harmful options to smoking of tobacco. Nicotine pouches is manufactured and stored in such a way that delivers lower concentrations of some harmful chemicals than other tobacco products. It is dependence forming but seems to cause milder health problems compared to smoking of tobacco. Sweden experienced a large drop in male and also female smoking over time with the shifting towards snus, while at the same time rates of lung cancer and heart attack decreased significantly.[10]

Sweden has recently become the first OECD country to reduce smoking to below 5 percent of the population.[11] Research from Sweden shows that snus has contributed to decreasing initiation of smoking and, when used as alternative to smoking, appears to facilitate smoking cessation. The availability and use of snus and nicotine pouches has thus been a major factor behind Sweden's record-low prevalence of smoking and the lowest level of tobacco-related mortality among men in Europe.[12] The scientific data, including long-term population studies

[8] Gianfredi et.al (2025).
[9] Hu (2024).
[10] Lakeville (2025a,b).
[11] Lakeville (2025a,b).
[12] Ramström, Borland & Wikmans (2016).

conducted by independent bodies, demonstrates that the health risks associated with snus are considerably lower than those associated with cigarette smoking.[13]

In a study published in Nature, Dai et al. employ a meta-analysis method that incorporates between-study heterogeneity into estimates of uncertainty, giving an understanding of the dose-response relationship between current smoking and various health outcomes. The authors find through this analysis that smoking is irrefutably harmful to human health, with the effect being dose-dependent, and with the greatest increases in risk occurring for laryngeal cancer, aortic aneurysm, peripheral artery disease, lung cancer and other pharynx cancers.[14]

Tobacco smoke contains multiple classes of carcinogens such as benzo(a)pyrenes, polycyclic aromatic hydrocarbons, and tobacco-specific nitrosamines. Most of these compounds have a genotoxic effect in which they form abnormal structures with DNA through covalent bonds, and generation of reactive oxygen species, causing mutations in vital genes. Nicotine and its derivatives can also induce cancer.[15] A study on adult stem cells from gum tissue has found that "cigarette smoke, but not nicotine, may significantly alter cell viability, cell migration and myofibroblastic differentiation in gingival mesenchymal cells".[16] Smoking involves burning, a process that leads to creation of a multitude of chemical compounds, some of which harmful.

Tobacco cigarette smoke contains more than 9000 different identified chemicals. Though much research has been carried out, it is still difficult to pinpoint which of these acts as the main toxins. Some compounds have been shown to create significant health risks on their own. Hydrogen cyanide and arsenic have for example been identified as substantial cardiovascular risk factors.[17] It is likely that the health impact also comes from the numerous other chemical compounds, through shared impact. While many of the smaller compounds might not have strong enough health impact to be defined as a toxin in themselves, their combined effect can still be significant on the health.

[13] Clarke et al. (2019).
[14] Dai et al. (2022).
[15] Schaal & Chellappan (2014).
[16] Silva et al. (2012), p. 599.
[17] Hadad et al. (2023).

Snus is significantly less harmful than smoking tobacco, while tobacco-free nicotine pouches have an even smaller health effect. Tests indicate that tobacco-free nicotine pouches "have a substantially reduced *in vitro* toxicity activity compared with traditional tobacco products".[18] Tobacco-free nicotine pouches are significantly less biologically active than nicotine pouches containing tobacco.[19] A research overview by Zamarripa et al finds oral nicotine pouches "likely produce less harm to individual users than conventional tobacco products (e.g., moist snuff, cigarettes) and can acutely suppress nicotine/tobacco withdrawal symptoms among current cigarette smokers".[20]

"While abstinence can be a strategy for better health, alternative products to smoking likewise create harm reduction benefits and should be encouraged."

In nutrition research, new insights are reached based on evidence-based research methods. A finding is that the optimal diet for individuals, while following previous ideas such as moderation and Mediterranean diet, often can have some small elements of unhealthy foods and still be optimal for the individual in question.[21] A similar approach is possible also in relation to tobacco consumption. While abstinence can be a strategy for better health, alternative products to smoking likewise create harm reduction benefits and should be encouraged.

[18] Yu et al. (2022), p. 24, see also Yu et al. (2024).
[19] Bishop et al. (2020).
[20] Zamarripa et al. (2025), p. 123.
[21] New Scientist (2025).

Discussion

In a time characterized by potential to increase healthy life span, tobacco policies in line with the Swedish model that encourage a shift to less harmful options, such as snus and nicotine pouches, can be part of the solution. Table 8 shows how many lives annually can be saved amongst 35+ years old men, in various European Union countries and the UK, by adopting Swedish-style tobacco policy. The effect is due to higher prices on smoking and the opportunity to shift towards snus and nicotine pouches as an alternative. For the European Union countries smoking-related deaths amongst 35+ years old men could be reduced by circa 217 300 annually by adopting Swedish-style tobacco policy, out of which circa 590 in Ireland. In the UK smoking-related deaths amongst 35+ years old men could be reduced by circa 20 800 annually by adopting Swedish-style tobacco policy. The health of men particularly, but also women, would significantly improve in the UK and in the rest of Europe with the adoption of Swedish style tobacco policies. There is good reason to learn from the first nation in the world which recently become officially smoke-free.[22]

As shown in this study there is a link between the share of smokers in the four nations that make up the UK and the expected total, and healthy, life-span. Scotland in particular has higher levels of smoking and correspondingly lower expected life-spans, and lower expected healthy life-spans. Currently the UK has a ban on sale of snus products. Nicotine pouches that are free from tobacco are currently legal, and coming legislation will introduce a new regulatory framework for nicotine pouches.

The UK government has published a call for evidence, on tobacco and vapes policies. The goal of the government is to bringing smoking prevalence "to essentially zero during the expected lifetime of a child born today", since this will benefit health and reduce public health expenditure.[23] However, the UK government call for evidence on tobacco and vapes does have focus on how nicotine pouches can be a better alternative to smoking of tobacco.

[22] Foulds, et al. (2003).
[23] Foulds, et al. (2003).

Sweden is leading the developed world in moving towards becoming a smoke-free society, defined by having a small share of the population smoking tobacco products. Sweden became recently the first country to be smoking free (under 5 percent of adults as smokers). This was achieved through relatively high taxation and regulation of smoking tobacco products, combined with availability of snus and nicotine pouches as an alternative. The Swedish best-practice in nicotine and tobacco regulation deserves to be studied, as a model to create harm reduction benefits also in the rest of Europe, including the nations that form the UK.

> ***"The health policies of the UK, and of the four nations that the nation encompasses, have reasons to adopt to the successful Swedish-model of combining relatively high regulation of tobacco smoking products with availability of snus and nicotine pouches as less harmful alternatives – this is the approach which in effect works best internationally."***

The health policies of the UK, and of the four nations that the nation encompasses, have reasons to adopt to the successful Swedish-model of combining relatively high regulation of tobacco smoking products with availability of snus and nicotine pouches as less harmful alternatives – this is the approach which in effect works best internationally. Data suggests other countries, including the UK, would benefit from adopting Swedish-style tobacco policies.

Table 8. Protective estimated effect of Swedish tobacco policy in the EU

	Total reduction in smoking-related deaths annually amongst 35+ year men, as estimated by Lakeville (2025b).
Austria	-4 402
Belgium	-3 386
Bulgaria	-11 193
Croatia	-3 831
Cyprus	- 229
Czechia	-6 099
Denmark	-1 559
Estonia	-977
Finland	-777
France	-16 171
Germany	-34 864
Greece	-7 604
Hungary	-8 292
Ireland	-592
Italy	-28 816
Latvia	-2 402
Lithuania	-2 639
Luxembourg	-97

Malta	-122
Netherlands	-4 949
Poland	-29 748
Portugal	-3 420
Romania	-24 289
Slovakia	-3 959
Slovenia	-848
Spain	-16 017
England	-16 352
Scotland	-2 508
Wales	-1 173
Northern Ireland	-705
Sweden	0 (already has Swedish tobacco policy)
EU	**-217 282**
UK	**-20 788**

Source: Lakeville (2026).

Method

Analysis of socioeconomic benefits of one more healthy life year assumes that half of the extra healthy life years gained are spent on the labour market, with same labour market outcomes in terms of contribution to work and entrepreneurship as the average working age adult. The result is economic output growing with the equivalent of half the GDP per adult working age, since half the time gained by more healthy life years is expected to go to leave and half being active in work and entrepreneurship. This effect is calculated for the cohort in each European country that is currently 50-years old. In circa 15 years from now, when individuals in the group are around or close to the retirement age, in countries with more evolution of healthy life years, less are likely to go into early retirement and more likely to work after the otherwise retirement age.

Those who are 50-year-old and older play a key role not only as workers but also as investors and entrepreneurs. This explains the strong societal gains of more healthy life years in terms of increasing value created in the economy. The formula for the calculation for each individual is shown below. This is later multiplied by the number of 50-year-olds in each country. The welfare gain is in the future, circa 15 years from now. Likely the total welfare gain will be even higher since productivity per worker is higher in the future, the calculations are cautious and assume present day productivity, which leads to them being more on the side of undervaluing the future benefits of longevity.

$$V = GDP/capita_{latest} * I * G / P * 0.5$$

V = socioeconomic benefit (growth in gross domestic product) for each 50-years-old individual gaining one more healthy life year, so that half a healthy life year on the margin extra is spent being productive on the labour market.

$GDP/capita_{latest}$ latest figure is for 2023, source UK Office of National Statistics and Eurostat, for national or regional value.

I = Inflation factor, converting 2023 to 2025 £, source European Central Bank calculator and own calculations.

G1 = 2023 to 2025 GDP growth factor, based on nominal GDP evolution of respective country, source UK Office of National Statistics, Eurostat, and own calculations.

P = Share of population that are working age factor (20-64 years old). While there is a strong longevity trend, overall, the bulk of work is carried out by individuals in the traditional working age, this figure is therefore used to calculate current GDP per working age population.

0.5 factor is since the calculation assumes each additional healthy life year on the margin will lead to half a year more in work, and half more in leisure.

Analysis of welfare benefits of one more healthy life year is instead based on measuring how much in total health spending is in the country, over the lifetime of an average adult, and how many healthy life years this results in. This is used as measure of the marginal welfare value of one additional life year. The formula is:

$$W = H * L * T_l / H_l$$

W = welfare benefit of each extra healthy life year, alternative cost measure based on how much is spent on health through all forms of funding over the lifespan of an average individual and how many healthy life years this results in.

H = health expenditure latest Euro per capita, latest 2023 data from Eurostat.

L= Linear extrapolation factor. Data from 2015 to 2023 linear extrapolation to 2025 figures, Eurostat.

T_l Total expected lifespan, Eurostat.

H_l Healthy expected lifespan, Eurostat.

Total public health expenditure in each country of the UK is given by BMA latest for 2023. World Bank data on total change in health expenditure, with linear growth model, is used to estimate evolution until 2025. Private health expenditure data for the UK is gathered from the World Bank, and the model assumes that the variation in GDP/capita in the UK nations corresponds to the variation of private health expenditure. Based on this, the total public and private health expenditure for each country is gathered. For Ireland data on total health expenditure per capita is gathered from Eurostat, for latest year 2023, with linear estimate of 2025 levels. Currency conversions with European Central bank calculator, based on 2025 averages.

England

- In England the total expected lifespan for 50-year-old men is 81.3 years. A comparison with the UK and Ireland nations (England, Wales, Scotland, Northern Ireland, and Ireland) shows that the average for the five nations is 81.1 years, thus England has slightly higher lifespan for 50-years-old men. As a comparison, the average of the EU-nations is 80.0 years. In Sweden, with tobacco policies promoting alternative nicotine use other than smoking, the figure is 83.2 years, same as in Cyprus with Mediterranean longevity.

- The expected lifespan of newborn boys in England is 79.1 years. Rutland has the highest expected lifespan for boys (81.9 years), followed by Surrey (81.8 years). The lowest level is found in Greater Manchester (75.6 years). In England most regions have no positive or even a negative evolution of the life expectancy of boys and girls. A comparison of the four nations of the UK and Ireland shows that those with higher share of the population that smokes tobacco tend to have lower total expected life-years, and fewer total expected healthy life-years.

- For 50-year-old women the life expectancy is 84.7 years in England. As comparison the rate is 84.2 years for the average of the five UK and Ireland nations, and 84.8 years for the average EU nation. The Mediterranean nation of Spain has the highest rate in Europe, of 87.6 years, compared to 86.0 years in Sweden.

- The expected lifespan of newborn girls in England is 83.0 years. For girls the highest expected lifespan at birth is found in Buckinghamshire (85.5 years), followed by Surrey (85.3 years), while the lowest level is found in, again, Greater Manchester (80.1 years).

- If the healthy lifespan of 50-year-old people was increased by one year, and half of that was spent on the labour market working and half time for relaxation, then this would lead to an economic benefit of £35 620 annually per adult in England. Middle-aged and older individuals are not only important for the workforce but also make up the bulk of job-creating entrepreneurs and investors, if they had more healthy life years

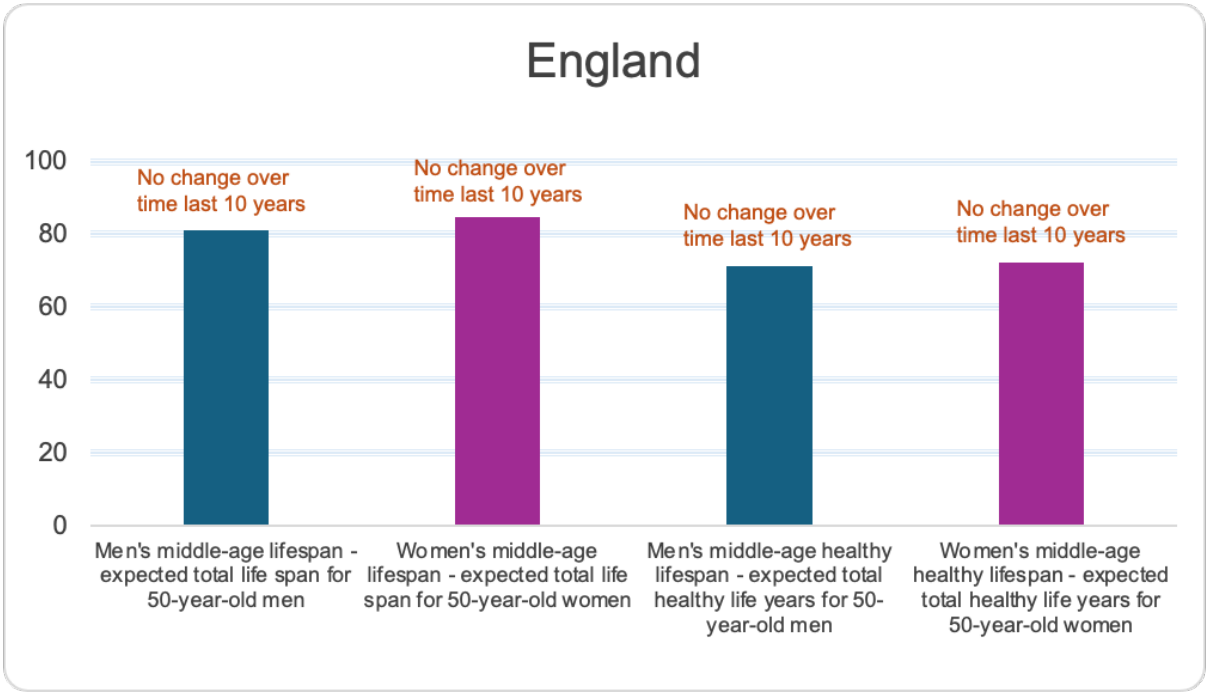
productivity would increase. This measure estimates that one more healthy life year spent half in work corresponds to the economy growing by half of the amount of GDP output per working age individual. This level is £60 930 per year in the developed London capital region, followed by £53 420 in Berkshire), while it is £20 590 per year in Northumberland with lower economic output per capita.

- The welfare benefit of one more healthy life year is £5 230 across the lifespan for an individual in England. This is a measure of how many £ are spent in total on health per capita annually, from all sources of funding, multiplied by number of total expected life years (for men and women who are 50 years), divided by number of expected healthy life years. This metric shows how much is invested over the lifespan for each healthy year of life in healthcare, for the average citizen.

	Value added to gross regional product per half a healthy year extra on the labour market, £ per capita and year.*	**Newborn boys' expected lifespan** (years)	**Newborn boys' longevity trend** - change in expected lifespan at birth for newborn boys, annual change past 10 years	**Newborn girls' expected lifespan** (years)	**Newborn girls' longevity trend** - change in expected lifespan at birth for newborn girls, annual change past 10 years
England	35 620	79.1	-0.01	83.0	0.01
London	60 931	79.1	-0.07	83.6	-0.02
Berkshire	53 422	79.4	0.13	83.3	0.03
Surrey	42 564	81.8	0.04	85.3	0.08
Bristol	41 588	78.5	0.03	83.0	0.03
Cheshire	40 811	78.7	0.04	82.1	0.04
Warwickshire	40 150	79.9	0.00	83.6	-0.01
Wiltshire	39 951	81.3	0.08	84.7	0.09
Hertfordshire	39 537	81.1	0.06	84.7	0.08
Oxfordshire	37 714	81.6	0.10	85.1	0.12
Hampshire	36 339	81.5	0.05	84.8	0.07
Cambridgeshire and Peterborough	35 682	80.6	0.07	84.0	-0.03

North Yorkshire	33 523	80.4	0.04	84.1	0.05
Buckinghamshire	33 252	81.5	0.05	85.5	0.08
Gloucestershire	33 157	80.3	0.05	83.9	0.02
Greater Manchester	32 951	75.6	0.01	80.1	0.02
West Sussex	31 223	80.6	0.01	84.5	0.05
Rutland	30 377	81.9	0.08	84.8	-0.07
West Yorkshire	29 846	77.4	-0.06	81.6	-0.02
Northamptonshire	29 610	79.6	0.02	83.6	0.10
Dorset	29 383	81.1	0.01	84.8	0.00
Cumbria	29 235	78.2	-0.07	82.2	-0.02
Suffolk	29 174	80.6	0.00	84.2	0.03
Worcestershire	28 794	79.8	0.01	83.8	0.04
Essex	28 786	80.4	0.03	84.0	0.05
Kent	28 711	79.7	-0.01	83.7	0.02
Leicestershire	28 473	80.5	0.04	84.0	0.01
Nottinghamshire	28 368	79.1	-0.04	83.2	0.03
Tyne and Wear	28 353	77.2	-0.03	81.3	-0.02
Derbyshire	27 667	79.2	-0.02	82.7	-0.04
Lancashire	27 491	78.4	0.02	82.2	0.03
Merseyside	27 358	76.5	-0.08	80.5	-0.10
West Midlands	27 355	78.1	0.01	82.2	-0.01
Bedfordshire	27 158	79.6	0.00	83.9	0.06
Shropshire	26 753	80.4	0.05	84.0	0.03
Devon	26 693	80.6	0.03	84.6	0.05
East Riding of Yorkshire	26 614	80.0	0.01	83.4	0.05
Somerset	26 567	80.2	-0.03	84.1	0.00
Norfolk	26 229	79.8	-0.03	83.6	0.00
Herefordshire	26 223	80.2	0.02	83.6	-0.02
Staffordshire	25 711	79.9	0.04	83.5	0.05
Cornwall	25 245	79.5	0.02	83.6	0.02
South Yorkshire	24 863	77.2	-0.09	80.9	-0.10
Lincolnshire	24 816	78.7	-0.04	82.7	-0.02
Tees Valley	23 820	77.7	-0.05	81.5	-0.08
Isle of Wight	23 628	80.5	0.02	84.0	0.07
Durham	22 776	77.2	-0.11	81.3	0.00
East Sussex	21 693	80.2	0.03	83.8	0.00
Northumberland	20 587	79.1	0.00	83.2	0.08

* Societal value of each extra healthy life year if half is spent working.


England
100
80
60
40
20
0
No change over time last 10 years
No change over time last 10 years
No change over time last 10 years
No change over time last 10 years
Men's middle-age lifespan - expected total life span for 50-year-old men
Women's middle-age lifespan - expected total life span for 50-year-old women
Men's middle-age healthy lifespan - expected total healthy life years for 50-year-old men
Women's middle-age healthy lifespan - expected total healthy life years for 50-year-old women

Wales

- In Wales the total expected lifespan for 50-year-old men is 80.6 years. A comparison with the UK and Ireland nations (England, Wales, Scotland, Northern Ireland, and Ireland) shows that the average for the five nations is 81.1 years, thus Wales has lower lifespan for 50-years-old men. As a comparison, the average of the EU-nations is 80.0 years. In Sweden, with tobacco policies promoting alternative nicotine use other than smoking, the figure is 83.2 years, same as in Cyprus with Mediterranean longevity.

- The expected lifespan of newborn boys in Wales is 78.1 years. Powys, Monmouthshire, and Vale of Glamorgan have the highest expected lifespan for boys (80.3 years). The lowest level is found in Merthyr Tydfil (75.0 years). In Wales most regions have no positive or even a negative evolution of the life expectancy of boys and girls. A comparison of the four nations of the UK and Ireland shows that those with higher share of the population that smokes tobacco tend to have lower total expected life-years, and fewer total expected healthy life-years.

- For 50-year-old women the life expectancy is 83.8 years in Wales. As comparison the rate is 84.2 years for the average of the five UK and Ireland nations, and 84.8 years for the average EU nation. The Mediterranean nation of Spain has the highest rate in Europe, of 87.6 years, compared to 86.0 years in Sweden.

- The expected lifespan of newborn girls in Wales is 82.0 years. For girls the highest expected lifespan at birth is found in Monmouthshire (84.6 years), followed by Vale of Glamorgan (83.9 years), while the lowest level is found in Blaenau Gwent and Isle of Anglesey (79.2 years).

- If the healthy lifespan of 50-year-old people was increased by one year, and half of that was spent on the labour market working and half time for relaxation, then this would lead to an economic benefit of £25 860 annually per adult in Wales. Middle-aged and older individuals are not only important for the workforce but also make up the bulk of job-creating entrepreneurs and investors, if they had more healthy life years

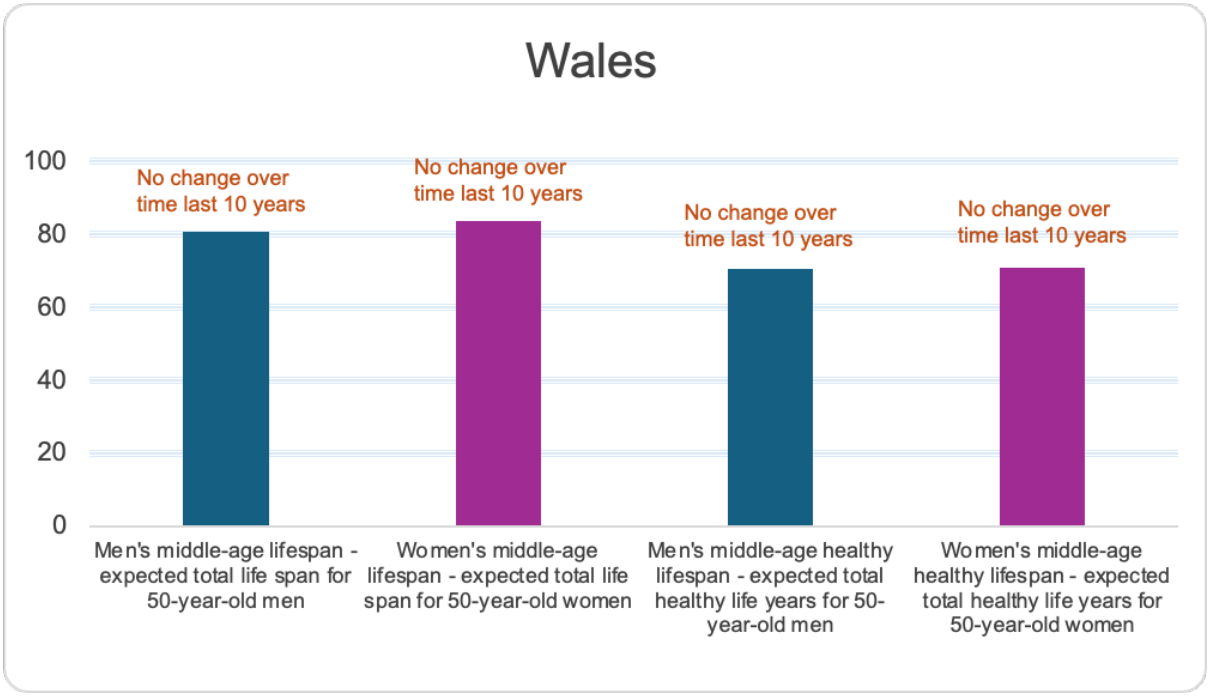
productivity would increase. This measure estimates that one more healthy life year spent half in work corresponds to the economy growing by half of the amount of GDP output per working age individual. This level is £33 600 per year in Wrexham and Flintshire, and 33 310 in Cardiff. In Blaenau Gwent, Caerphilly, and Torfaen the value added to gross regional product for each additional healthy life year is £19 890.

- The welfare benefit of one more healthy life year is £5 320 across the lifespan for an individual in Wales. This is a measure of how many £ are spent in total on health per capita annually, from all sources of funding, multiplied by number of total expected life years (for men and women who are 50 years), divided by number of expected healthy life years. This metric shows how much is invested over the lifespan for each healthy year of life in healthcare, for the average citizen.

	Value added to gross regional product per half a healthy year extra on the labour market, £ per capita and year.*	**Newborn boys' expected lifespan** (years)	**Newborn boys' longevity trend** - change in expected lifespan at birth for newborn boys, annual change past 10 years	**Newborn girls' expected lifespan** (years)	**Newborn girls' longevity trend** - change in expected lifespan at birth for newborn girls, annual change past 10 years
Wales	25 859	78.1	-0.01	82.0	-0.02
Cardiff	33 306	78.5	0.04	82.2	-0.06
Flintshire	33 603	78.8	-0.01	82.4	0.01
Wrexham	33 603	77.5	-0.10	82.1	0.01
Vale of Glamorgan	33 306	80.3	0.06	83.9	0.07
Monmouthshire	28 164	80.3	0.05	84.6	0.06
Newport	28 164	77.9	0.00	82.1	-0.01
Swansea	26 102	77.5	0.00	82.2	0.02
Gwynedd	24 514	78.8	-0.06	83.3	-0.02
Carmarthenshire	23 591	78.7	0.02	81.9	-0.06
Pembrokeshire	23 591	78.8	-0.03	83.1	0.04
Bridgend	22 901	78.1	0.10	81.9	0.09

Merthyr Tydfil	22 901	75.0	-0.18	79.7	-0.11
Rhondda Cynon Taf	22 901	77.0	0.06	81.3	0.05
Conwy	22 347	78.9	0.00	82.6	-0.02
Denbighshire	22 347	77.7	-0.05	81.2	0.00
Ceredigion	22 048	79.7	0.00	83.3	-0.05
Powys	22 048	80.3	0.01	83.6	0.01
Isle of Anglesey	21 416	78.7	0.01	79.2	-0.08
Neath Port Talbot	20 765	77.5	0.10	81.4	0.04
Blaenau Gwent	19 892	75.8	0.03	79.2	-0.08
Caerphilly	19 892	77.2	-0.04	80.6	-0.08
Torfaen	19 892	77.6	0.00	81.6	-0.01

* Societal value of each extra healthy life year if half is spent working.



Scotland

- In Scotland the total expected lifespan for 50-year-old men is 79.7 years. A comparison with the UK and Ireland nations (England, Wales, Scotland, Northern Ireland, and Ireland) shows that the average for the five nations is 81.1 years, Scotland has the lowest rate, and also the highest rate of smokers. As a comparison, the average of the EU-nations is 80.0 years. In Sweden, with tobacco policies promoting alternative nicotine use other than smoking, the figure is 83.2 years, same as in Cyprus with Mediterranean longevity.

- The expected lifespan of newborn boys in Scotland is 76.8 years. The highest rate is found in East Renfrewshire (81.5 years), followed by East Dunbartonshire (80.3 years), while Edinburgh lags behind the top somewhat (78.3 years). In Glasgow City it is considerably lower (74.3 years). In Scotland some regions have a positive, some a stagnating, and some even a reducing trend of the expected life-span of newly born boys and girls. A comparison of the four nations of the UK and Ireland shows that those with higher share of the population that smokes tobacco tend to have lower total expected life-years, and fewer total expected healthy life-years.

- For 50-year-old women the life expectancy is 82.8 years in Scotland. As comparison the rate is 84.2 years for the average of the five UK and Ireland nations, and 84.8 years for the average EU nation. The Mediterranean nation of Spain has the highest rate in Europe, of 87.6 years, compared to 86.0 years in Sweden.

- The expected lifespan of newborn girls in Scotland is 80.8 years. For girls the highest expected lifespan at birth is found in East Renfrewshire (84.9 years), and East Dunbartonshire (84.2 years). The expected life-span of newly born girls is 82.2 years in Edinburgh, and 78.7 years in Glasgow City which lags behind.

- If the healthy lifespan of 50-year-old people was increased by one year, and half of that was spent on the labour market working and half time for relaxation, then this would lead to an economic benefit of £32 200 annually per adult in Scotland. Middle-aged and

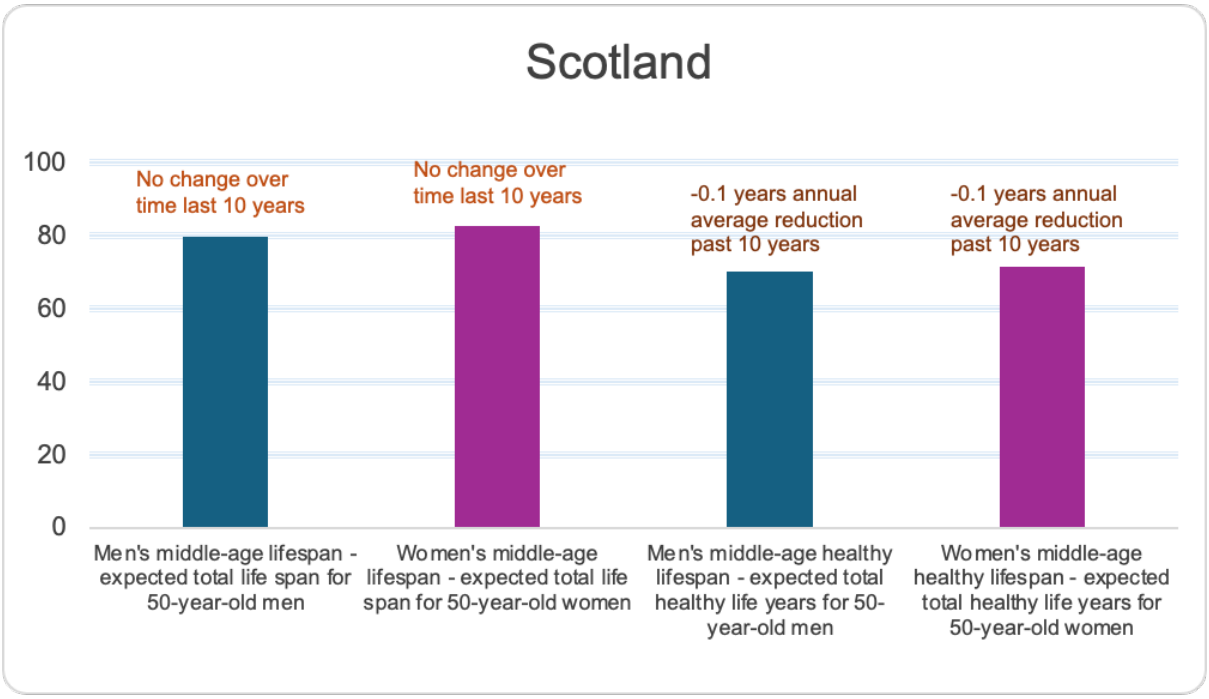
older individuals are not only important for the workforce but also make up the bulk of job-creating entrepreneurs and investors, if they had more healthy life years productivity would increase. This measure estimates that one more healthy life year spent half in work corresponds to the economy growing by half of the amount of GDP output per working age individual. This level is £60 430 per year in the Edinburgh capital region, with higher economic development. In North as well as East Ayrshire, with the lowest rate in the country, the value added to gross regional product for each additional healthy life year is £21 000.

- The welfare benefit of one more healthy life year is £5 160 across the lifespan for an individual in Scotland. This is a measure of how many £ are spent in total on health per capita annually, from all sources of funding, multiplied by number of total expected life years (for men and women who are 50 years), divided by number of expected healthy life years. This metric shows how much is invested over the lifespan for each healthy year of life in healthcare, for the average citizen.

	Value added to gross regional product per half a healthy year extra on the labour market, £ per capita and year.*	**Newborn boys' expected lifespan** (years)	**Newborn boys' longevity trend** - change in expected lifespan at birth for newborn boys, annual change past 10 years	**Newborn girls' expected lifespan** (years)	**Newborn girls' longevity trend** - change in expected lifespan at birth for newborn girls, annual change past 10 years
Scotland	32 195	76.8	0.00	80.8	-0.01
Edinburgh	60 430	78.3	0.08	82.2	0.03
Aberdeen City	45 518	77.3	0.03	81.3	0.01
Glasgow City	43 499	74.3	0.13	78.7	0.02
West Lothian	32 982	77.3	-0.01	80.8	0.07
Argyll and Bute	32 495	78.1	-0.01	81.9	0.04
Perth and Kinross	31 478	79.1	-0.01	82.8	0.02
Stirling	31 478	78.5	0.00	82.2	0.02

Na h-Eileanan Siar	29 844	76.8	-0.03	80.8	0.04
Orkney Islands	29 844	79.3	0.07	82.8	0.02
Shetland Islands	29 844	79.5	0.17	83.9	0.13
North Lanarkshire	29 591	75.2	0.01	78.9	-0.04
Moray	28 429	77.7	-0.01	82.2	0.06
Falkirk	27 941	76.3	-0.04	80.0	-0.06
Dumfries and Galloway	27 724	77.2	-0.08	81.2	-0.03
Aberdeenshire	26 935	79.5	0.03	82.9	0.08
South Ayrshire	26 019	76.8	-0.08	81.3	0.04
Angus	25 724	78.1	-0.03	81.7	0.03
Dundee City	25 724	75.3	0.02	79.6	0.00
South Lanarkshire	25 013	76.8	0.03	80.5	-0.01
Scottish Borders	23 792	79.0	-0.02	82.7	0.03
Clackmannanshire	23 717	75.9	-0.11	80.3	0.05
Fife	23 717	77.3	0.02	80.9	-0.02
East Renfrewshire	22 028	81.5	0.20	84.9	0.20
Inverclyde	22 028	75.6	0.09	79.6	-0.11
Renfrewshire	22 028	76.5	0.08	80.9	0.03
East Dunbartonshire	21 594	80.3	0.00	84.2	0.07
West Dunbartonshire	21 594	75.0	0.08	79.7	0.06
East Lothian	21 170	78.7	0.03	82.6	0.10
Highland	21 170	77.7	0.01	82.0	-0.01
Midlothian	21 170	77.8	0.06	82.0	0.03
East Ayrshire	20 996	75.7	0.00	78.9	-0.08
North Ayrshire	20 996	75.0	-0.09	79.7	-0.12

* Societal value of each extra healthy life year if half is spent working.


Scotland
100
80
60
40
20
0
No change over time last 10 years
No change over time last 10 years
-0.1 years annual average reduction past 10 years
-0.1 years annual average reduction past 10 years
Men's middle-age lifespan - expected total life span for 50-year-old men
Women's middle-age lifespan - expected total life span for 50-year-old women
Men's middle-age healthy lifespan - expected total healthy life years for 50-year-old men
Women's middle-age healthy lifespan - expected total healthy life years for 50-year-old women

Northern Ireland

- In Northern Ireland the total expected lifespan for 50-year-old men is 81.2 years. A comparison with the UK and Ireland nations (England, Wales, Scotland, Northern Ireland, and Ireland) shows that the average for the five nations is 81.1 years, thus Northern Ireland has marginally higher lifespan for 50-years-old men. As a comparison, the average of the EU-nations is 80.0 years. In Sweden, with tobacco policies promoting alternative nicotine use other than smoking, the figure is 83.2 years, same as in Cyprus with Mediterranean longevity.

- The expected lifespan of newborn boys in Northern Ireland is 78.8 years. Linburn and Castlereagh has the highest expected life-span for newborn boys (80.5 years), followed by Ards and North Down (79.9 years), while the rate in Belfast is the lowest in the country (76.5 years). In Northern Ireland most regions have a positive evolution of the life expectancy of boys, but for girls it is growing in some regions while stagnating or even falling in other regions. A comparison of the four nations of the UK and Ireland shows that those with higher share of the population that smokes tobacco tend to have lower total expected life-years, and fewer total expected healthy life-years.

- For 50-year-old women the life expectancy is 84.0 years in Northern Ireland. As comparison the rate is 84.2 years for the average of the five UK and Ireland nations, and 84.8 years for the average EU nation. The Mediterranean nation of Spain has the highest rate in Europe, of 87.6 years, compared to 86.0 years in Sweden.

- The expected lifespan of newborn girls in Northern Ireland is 82.5 years. For girls the highest expected lifespan at birth is found in Linburn ad Castlereagh, as well as in Fermanagh and Omagh (83.8 years), while Belfast again significantly lags behind (80.5 years).

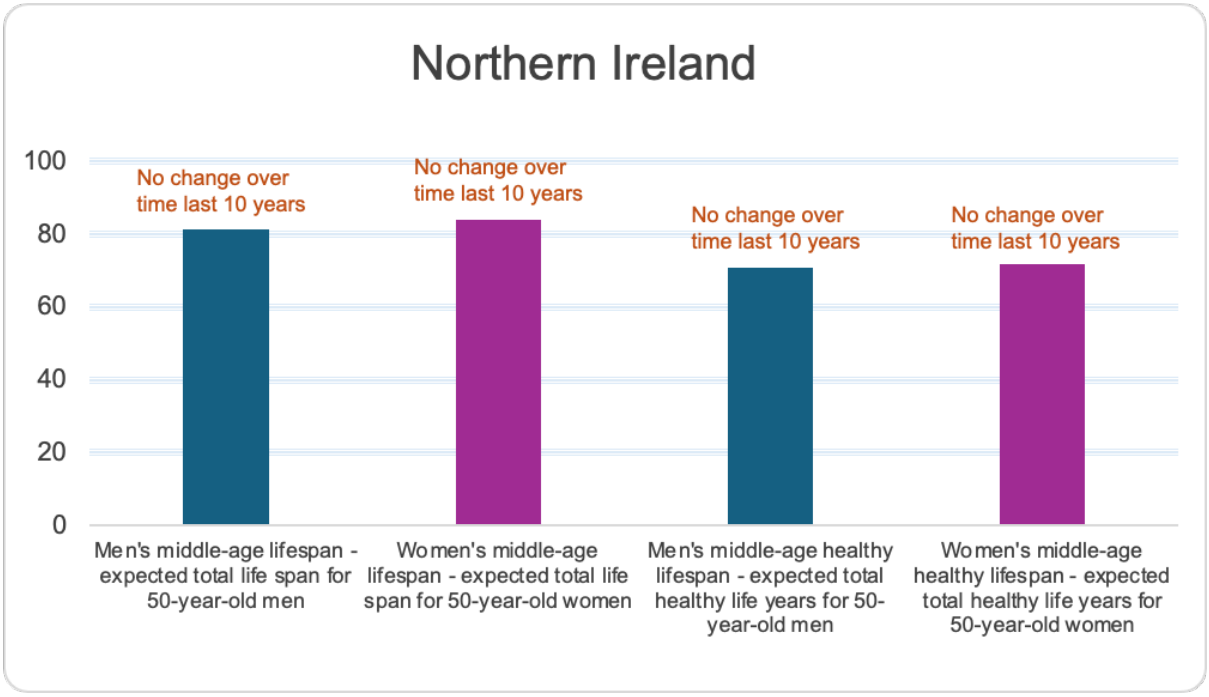
- If the healthy lifespan of 50-year-old people was increased by one year, and half of that was spent on the labour market working and half time for relaxation, then this would lead to an economic benefit of £29 570 annually per adult in Northern Ireland. Middle-

aged and older individuals are not only important for the workforce but also make up the bulk of job-creating entrepreneurs and investors, if they had more healthy life years productivity would increase. This measure estimates that one more healthy life year spent half in work corresponds to the economy growing by half of the amount of GDP output per working age individual. This level is £49 800 per year in the Belfast capital region, with higher economic development. In Ards and North Down, with the lowest rate in the country, the value added to gross regional product for each additional healthy life year is £17 920.

- The welfare benefit of one more healthy life year is £5 280 across the lifespan for an individual in Northern Ireland. This is a measure of how many £ are spent in total on health per capita annually, from all sources of funding, multiplied by number of total expected life years (for men and women who are 50 years), divided by number of expected healthy life years. This metric shows how much is invested over the lifespan for each healthy year of life in healthcare, for the average citizen.

	Value added to gross regional product per half a healthy year extra on the labour market, £ per capita and year.*	**Newborn boys' expected lifespan** (years)	**Newborn boys' longevity trend** - change in expected lifespan at birth for newborn boys, annual change past 10 years	**Newborn girls' expected lifespan** (years)	**Newborn girls' longevity trend** - change in expected lifespan at birth for newborn girls, annual change past 10 years
Northern Ireland	29 569	78.8	0.08	82.5	0.02
Belfast	49 844	76.5	0.08	80.5	-0.03
Mid Ulster	31 420	79.5	0.05	83.4	0.00
Antrim and Newtownabbey	29 103	79.3	0.10	82.5	0.05
Lisburn and Castlereagh	28 729	80.5	0.12	83.8	0.06
Derry City and Strabane	26 156	77.6	0.06	81.2	-0.02
Fermanagh and Omagh	25 916	79.8	0.13	83.8	0.06
Armagh City. Banbridge and Craigavon	24 407	79.0	0.05	83.2	0.05
Mid and East Antrim	23 380	78.8	0.05	83.1	0.03
Newry. Mourne and Down	23 332	79.4	0.10	83.2	0.06
Causeway Coast and Glens	21 441	79.1	0.03	83.2	0.05
Ards and North Down	17 915	79.9	0.06	83.5	0.09

* Societal value of each extra healthy life year if half is spent working.


Northern Ireland
100
80
60
40
20
0
No change over time last 10 years
No change over time last 10 years
No change over time last 10 years
No change over time last 10 years
Men's middle-age lifespan - expected total life span for 50-year-old men
Women's middle-age lifespan - expected total life span for 50-year-old women
Men's middle-age healthy lifespan - expected total healthy life years for 50-year-old men
Women's middle-age healthy lifespan - expected total healthy life years for 50-year-old women

Ireland

- In Ireland the total expected lifespan for 50-year-old men is 82.7 years. A comparison with the UK and Ireland nations (England, Wales, Scotland, Northern Ireland, and Ireland) shows that the average for the five nations is 81.1 years, Ireland tops the league of lifespan for 50-years-old men. As a comparison, the average of the EU-nations is 80.0 years. In Sweden, with tobacco policies promoting alternative nicotine use other than smoking, the figure is 83.2 years, same as in Cyprus with Mediterranean longevity.

- The expected lifespan of newborn boys in Ireland is 81.1 years. Dublin (81.6 years) has longer expected life-span for newly born boys, while Northern and Western Ireland (80.9 years), and Southern Ireland (80.6 years), have somewhat lower rates. Across Ireland there is a strong trend of increased expected life-span of newly born boys as well as girls.

- For 50-year-old women the life expectancy is 85.7 years in Ireland. As comparison the rate is 84.2 years for the average of the five UK and Ireland nations, and 84.8 years for the average EU nation. The Mediterranean nation of Spain has the highest rate in Europe, of 87.6 years, compared to 86.0 years in Sweden.

- The expected lifespan of newborn girls in Ireland is 84.6 years. For girls the highest expected lifespan at birth is found in Dublin (85.0 years), nearly same as in Northern and Western Ireland (84.9 years), and higher compared to Southern Ireland (84.1 years). Tobacco-related deaths amongst 35 years or older men could be reduced by an estimated 34 percent in Ireland if Swedish tobacco policies were introduced, leading to alternative nicotine products such as nicotine pouches reducing smoking habits.

- If the healthy lifespan of 50-year-old people was increased by one year, and half of that was spent on the labour market working and half time for relaxation, then this would lead to an economic benefit of £84 920 annually per adult in Ireland. Middle-aged and older individuals are not only important for the workforce but also make up the bulk of job-creating entrepreneurs and investors, if they had more healthy life years

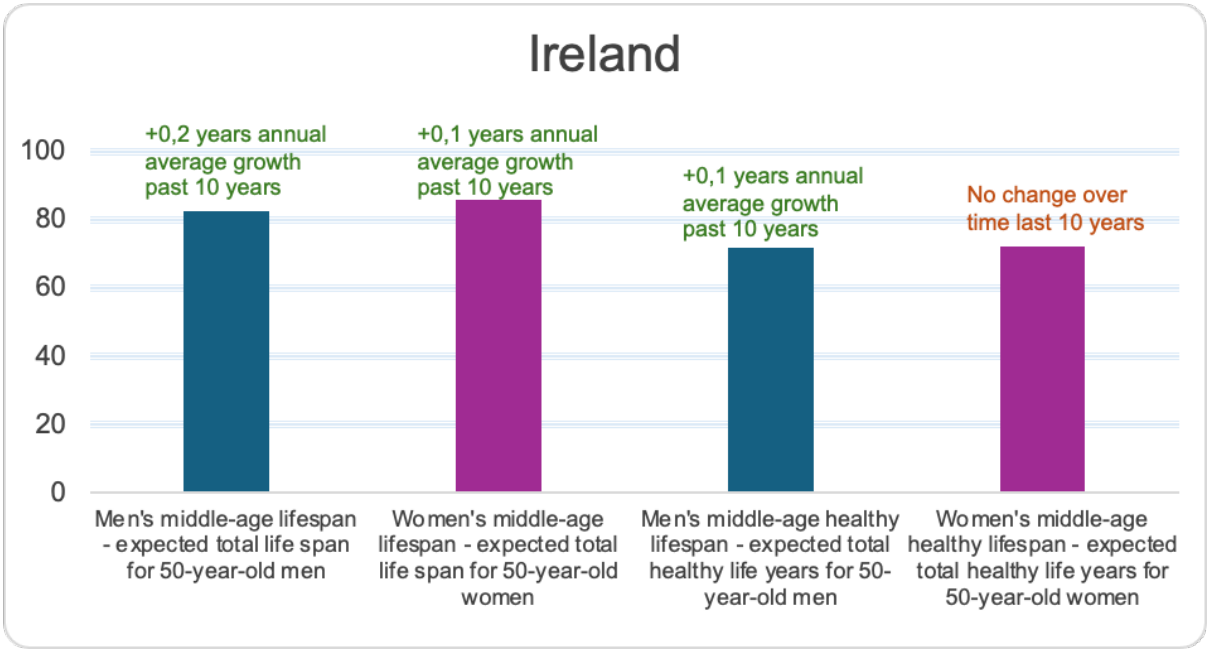
productivity would increase. This measure estimates that one more healthy life year spent half in work corresponds to the economy growing by half of the amount of GDP output per working age individual. The level is fully £97 530 per year in the Dublin region, with a strong knowledge intensive economy, compared to high £89 590 in Southern Ireland, and considerably lower £40 030 in the Northern and Western Ireland region.

- The welfare benefit of one more healthy life year is £6 810 across the lifespan for an individual in Ireland. This is a measure of how many £ are spent in total on health per capita annually, from all sources of funding, multiplied by number of total expected life years (for men and women who are 50 years), divided by number of expected healthy life years. This metric shows how much is invested over the lifespan for each healthy year of life in healthcare, for the average citizen.

	Value added to gross regional product per half a healthy year extra on the labour market, £ per capita and year.*	**Newborn boys' expected lifespan** (years)	**Newborn boys' longevity trend** - change in expected lifespan at birth for newborn boys, annual change past 10 years	**Newborn girls' expected lifespan** (years)	**Newborn girls' longevity trend** - change in expected lifespan at birth for newborn girls, annual change past 10 years
Ireland	84 917	81.1	0.18	84.6	0.11
Dublin	97 527	81.6	0.21	85.0	0.19
Southern Ireland	89 591	80.6	0.24	84.1	0.13
Northern and Western Ireland	40 034	80.9	0.17	84.9	0.13

* Societal value of each extra healthy life year if half is spent working.

The regional division of Ireland follows that of the EU-27 nations, with data from Eurostat, and is based on larger regions, while regional data that exists for the four nations of the UK are based on smaller regions.


Ireland
100
80
60
40
20
0
+0,2 years annual average growth past 10 years
+0,1 years annual average growth past 10 years
+0,1 years annual average growth past 10 years
No change over time last 10 years
Men's middle-age lifespan - expected total life span for 50-year-old men
Women's middle-age lifespan - expected total life span for 50-year-old women
Men's middle-age healthy lifespan - expected total healthy life years for 50-year-old men
Women's middle-age healthy lifespan - expected total healthy life years for 50-year-old women

Appendix A. Evolution of newborn boys' expected lifespan in various regions of the UK and Ireland

Ranking of UK and Ireland regions from highest increase of expected lifespan at birth for newborn boys, to lowest increase	Region		Newborn boys' expected lifespan (years)	Newborn boys' longevity trend - change in expected lifespan at birth for newborn boys, annual change past 10 years
1	Southern Ireland (Ireland)		80.6	0.24
2	Dublin (Ireland)		81.6	0.21
3	East Renfrewshire (Scotland)		81.5	0.20
4	Northern and Western Ireland (Ireland)		80.9	0.17
5	Shetland Islands (Scotland)		79.5	0.17
6	Berkshire (England)		79.4	0.13
7	Fermanagh and Omagh (Northern Ireland)		79.8	0.13
8	Glasgow City (Scotland)		74.3	0.13
9	Lisburn and Castlereagh (Northern Ireland)		80.5	0.12
10	Oxfordshire (England)		81.6	0.10
11	Newry. Mourne and Down (Northern Ireland)		79.4	0.10
12	Antrim and Newtownabbey (Northern Ireland)		79.3	0.10
13	Bridgend (Wales)		78.1	0.10
14	Neath Port Talbot (Wales)		77.5	0.10
15	Inverclyde (Scotland)		75.6	0.09
16	Rutland (England)		81.9	0.08
17	Wiltshire (England)		81.3	0.08

18	**Edinburgh (Scotland)**		78.3	0.08
19	**Renfrewshire (Scotland)**		76.5	0.08
20	**Belfast (Northern Ireland)**		76.5	0.08
21	**West Dunbartonshire (Scotland)**		75.0	0.08
22	**Orkney Islands (Scotland)**		79.3	0.07
23	**Cambridgeshire and Peterborough (England)**		80.6	0.07
24	**Ards and North Down (Northern Ireland)**		79.9	0.06
25	**Hertfordshire (England)**		81.1	0.06
26	**Vale of Glamorgan (Wales)**		80.3	0.06
27	**Midlothian (Scotland)**		77.8	0.06
28	**Derry City and Strabane (Northern Ireland)**		77.6	0.06
29	**Rhondda Cynon Taf (Wales)**		77.0	0.06
30	**Buckinghamshire (England)**		81.5	0.05
31	**Hampshire (England)**		81.5	0.05
32	**Shropshire (England)**		80.4	0.05
33	**Gloucestershire (England)**		80.3	0.05
34	**Monmouthshire (Wales)**		80.3	0.05
35	**Mid Ulster (Northern Ireland)**		79.5	0.05
36	**Armagh City. Banbridge and Craigavon (Northern Ireland)**		79.0	0.05
37	**Mid and East Antrim (Northern Ireland)**		78.8	0.05
38	**Leicestershire (England)**		80.5	0.04
39	**North Yorkshire (England)**		80.4	0.04
40	**Staffordshire (England)**		79.9	0.04
41	**Cheshire (England)**		78.7	0.04
42	**Cardiff (Wales)**		78.5	0.04
43	**Surrey (England)**		81.8	0.04
44	**Essex (England)**		80.4	0.03
45	**Devon (England)**		80.6	0.03
46	**East Sussex (England)**		80.2	0.03
47	**Aberdeenshire**		79.5	0.03
48	**Causeway Coast and Glens (Northern Ireland)**		79.1	0.03
49	**East Lothian (Scotland)**		78.7	0.03
50	**Bristol (England)**		78.5	0.03

51	**Aberdeen City (Scotland)**		77.3	0.03
52	**South Lanarkshire (Scotland)**		76.8	0.03
53	**Blaenau Gwent (Wales)**		75.8	0.03
54	**Isle of Wight (England)**		80.5	0.02
55	**Herefordshire (England)**		80.2	0.02
56	**Cornwall (England)**		79.5	0.02
57	**Carmarthenshire (Wales)**		78.7	0.02
58	**Lancashire (England)**		78.4	0.02
59	**Fife (Scotland)**		77.3	0.02
60	**Dundee City (Scotland)**		75.3	0.02
61	**Northamptonshire (England)**		79.6	0.02
62	**Isle of Anglesey (Wales)**		78.7	0.01
63	**Highland (Scotland)**		77.7	0.01
64	**North Lanarkshire (Scotland)**		75.2	0.01
65	**Dorset (England)**		81.1	0.01
66	**West Sussex (England)**		80.6	0.01
67	**Powys (Wales)**		80.3	0.01
68	**East Riding of Yorkshire (England)**		80.0	0.01
69	**Worcestershire (England)**		79.8	0.01
70	**West Midlands (England)**		78.1	0.01
71	**Greater Manchester (England)**		75.6	0.01
72	**Suffolk (England)**		80.6	0.00
73	**East Dunbartonshire (Scotland)**		80.3	0.00
74	**Warwickshire (England)**		79.9	0.00
75	**Ceredigion (Wales)**		79.7	0.00
76	**Bedfordshire (England)**		79.6	0.00
77	**Northumberland (England)**		79.1	0.00
78	**Conwy (Wales)**		78.9	0.00
79	**Stirling (Scotland)**		78.5	0.00
80	**Newport (Wales)**		77.9	0.00
81	**Torfaen (Wales)**		77.6	0.00
82	**Swansea (Wales)**		77.5	0.00
83	**East Ayrshire (Scotland)**		75.7	0.00
84	**Kent (England)**		79.7	-0.01
85	**Moray (Scotland)**		77.7	-0.01
86	**Perth and Kinross (Scotland)**		79.1	-0.01

87	**Flintshire (Wales)**		78.8	-0.01
88	**Argyll and Bute (Scotland)**		78.1	-0.01
89	**West Lothian (Scotland)**		77.3	-0.01
90	**Derbyshire (England)**		79.2	-0.02
91	**Scottish Borders (Scotland)**		79.0	-0.02
92	**Somerset (England)**		80.2	-0.03
93	**Norfolk (England)**		79.8	-0.03
94	**Pembrokeshire (Wales)**		78.8	-0.03
95	**Na h-Eileanan Siar (Scotland)**		76.8	-0.03
96	**Angus (Scotland)**		78.1	-0.03
97	**Tyne and Wear (England)**		77.2	-0.03
98	**Lincolnshire (England)**		78.7	-0.04
99	**Caerphilly (Wales)**		77.2	-0.04
100	**Nottinghamshire (England)**		79.1	-0.04
101	**Falkirk (Scotland)**		76.3	-0.04
102	**Tees Valley (England)**		77.7	-0.05
103	**Denbighshire (Wales)**		77.7	-0.05
104	**Gwynedd (Wales)**		78.8	-0.06
105	**West Yorkshire (England)**		77.4	-0.06
106	**London (England)**		79.1	-0.07
107	**Cumbria (England)**		78.2	-0.07
108	**Merseyside (England)**		76.5	-0.08
109	**Dumfries and Galloway (Scotland)**		77.2	-0.08
110	**South Ayrshire (Scotland)**		76.8	-0.08
111	**North Ayrshire (Scotland)**		75.0	-0.09
112	**South Yorkshire (England)**		77.2	-0.09
113	**Wrexham (Wales)**		77.5	-0.10
114	**Durham (England)**		77.2	-0.11
115	**Clackmannanshire (Scotland)**		75.9	-0.11
116	**Merthyr Tydfil (Wales)**		75.0	-0.18

Appendix B. Evolution of newborn girls' expected lifespan in various regions of the UK and Ireland

Ranking of UK and Ireland regions from highest increase of expected lifespan at birth for newborn boys. to lowest increase	Region	Newborn girls' expected lifespan (years)	Newborn girls' longevity trend - change in expected lifespan at birth for newborn girls, annual change past 10 years
1	East Renfrewshire (Scotland)	84.9	0.20
2	Dublin (Ireland)	85.0	0.19
3	Shetland Islands (Scotland)	83.9	0.13
4	Northern and Western Ireland (Ireland)	84.9	0.13
5	Southern Ireland (Ireland)	84.1	0.13
6	Oxfordshire (England)	85.1	0.12
7	Northamptonshire (England)	83.6	0.10
8	East Lothian (Scotland)	82.6	0.10
9	Wiltshire (England)	84.7	0.09
10	Bridgend (Wales)	81.9	0.09
11	Ards and North Down (Northern Ireland)	83.5	0.09
12	Aberdeenshire (Scotland)	82.9	0.08
13	Buckinghamshire (England)	85.5	0.08
14	Hertfordshire (England)	84.7	0.08
15	Northumberland (England)	83.2	0.08
16	Surrey (England)	85.3	0.08
17	Hampshire (England)	84.8	0.07
18	Isle of Wight (England)	84.0	0.07
19	Vale of Glamorgan (Wales)	83.9	0.07

20	**East Dunbartonshire (Scotland)**	84.2	0.07
21	**West Lothian (Scotland)**	80.8	0.07
22	**Bedfordshire (England)**	83.9	0.06
23	**Moray (Scotland)**	82.2	0.06
24	**West Dunbartonshire (Scotland)**	79.7	0.06
25	**Newry. Mourne and Down (Northern Ireland)**	83.2	0.06
26	**Monmouthshire (Wales)**	84.6	0.06
27	**Fermanagh and Omagh (Northern Ireland)**	83.8	0.06
28	**Lisburn and Castlereagh (Northern Ireland)**	83.8	0.06
29	**Devon (England)**	84.6	0.05
30	**East Riding of Yorkshire (England)**	83.4	0.05
31	**Essex (England)**	84.0	0.05
32	**North Yorkshire (England)**	84.1	0.05
33	**Staffordshire (England)**	83.5	0.05
34	**West Sussex (England)**	84.5	0.05
35	**Rhondda Cynon Taf (Wales)**	81.3	0.05
36	**Clackmannanshire (Scotland)**	80.3	0.05
37	**Antrim and Newtownabbey (Northern Ireland)**	82.5	0.05
38	**Armagh City. Banbridge and Craigavon (Northern Ireland)**	83.2	0.05
39	**Causeway Coast and Glens (Northern Ireland)**	83.2	0.05
40	**Neath Port Talbot (Wales)**	81.4	0.04
41	**Argyll and Bute (Scotland)**	81.9	0.04
42	**Cheshire (England)**	82.1	0.04
43	**Worcestershire (England)**	83.8	0.04
44	**Pembrokeshire (Wales)**	83.1	0.04
45	**Na h-Eileanan Siar (Scotland)**	80.8	0.04
46	**South Ayrshire (Scotland)**	81.3	0.04
47	**Renfrewshire (Scotland)**	80.9	0.03
48	**Berkshire (England)**	83.3	0.03
49	**Bristol (England)**	83.0	0.03
50	**Lancashire (England)**	82.2	0.03

51	**Nottinghamshire (England)**	83.2	0.03
52	**Shropshire (England)**	84.0	0.03
53	**Suffolk (England)**	84.2	0.03
54	**Angus (Scotland)**	81.7	0.03
55	**Edinburgh (Scotland)**	82.2	0.03
56	**Midlothian (Scotland)**	82.0	0.03
57	**Scottish Borders (Scotland)**	82.7	0.03
58	**Mid and East Antrim (Northern Ireland)**	83.1	0.03
59	**Gloucestershire (England)**	83.9	0.02
60	**Kent (England)**	83.7	0.02
61	**Swansea (Wales)**	82.2	0.02
62	**Glasgow City (Scotland)**	78.7	0.02
63	**Orkney Islands (Scotland)**	82.8	0.02
64	**Perth and Kinross (Scotland)**	82.8	0.02
65	**Stirling (Scotland)**	82.2	0.02
66	**Cornwall (England)**	83.6	0.02
67	**Greater Manchester (England)**	80.1	0.02
68	**Flintshire (Wales)**	82.4	0.01
69	**Leicestershire (England)**	84.0	0.01
70	**Powys (Wales)**	83.6	0.01
71	**Wrexham (Wales)**	82.1	0.01
72	**Aberdeen City (Scotland)**	81.3	0.01
73	**Dorset (England)**	84.8	0.00
74	**Durham (England)**	81.3	0.00
75	**East Sussex (England)**	83.8	0.00
76	**Norfolk (England)**	83.6	0.00
77	**Somerset (England)**	84.1	0.00
78	**Denbighshire (Wales)**	81.2	0.00
79	**Dundee City (Scotland)**	79.6	0.00
80	**Mid Ulster (Northern Ireland)**	83.4	0.00
81	**Highland (Scotland)**	82.0	-0.01
82	**South Lanarkshire (Scotland)**	80.5	-0.01
83	**Warwickshire (England)**	83.6	-0.01
84	**Newport (Wales)**	82.1	-0.01
85	**Torfaen (Wales)**	81.6	-0.01
86	**West Midlands (England)**	82.2	-0.01

87	**Tyne and Wear (England)**	81.3	-0.02
88	**Cumbria (England)**	82.2	-0.02
89	**Fife (Scotland)**	80.9	-0.02
90	**London (England)**	83.6	-0.02
91	**Herefordshire (England)**	83.6	-0.02
92	**Lincolnshire (England)**	82.7	-0.02
93	**Conwy (Wales)**	82.6	-0.02
94	**Gwynedd (Wales)**	83.3	-0.02
95	**Derry City and Strabane (Northern Ireland)**	81.2	-0.02
96	**West Yorkshire (England)**	81.6	-0.02
97	**Cambridgeshire and Peterborough (England)**	84.0	-0.03
98	**Dumfries and Galloway (Scotland)**	81.2	-0.03
99	**Belfast (Northern Ireland)**	80.5	-0.03
100	**Derbyshire (England)**	82.7	-0.04
101	**North Lanarkshire (Scotland)**	78.9	-0.04
102	**Ceredigion (Wales)**	83.3	-0.05
103	**Cardiff (Wales)**	82.2	-0.06
104	**Carmarthenshire (Wales)**	81.9	-0.06
105	**Falkirk (Scotland)**	80.0	-0.06
106	**Rutland (England)**	84.8	-0.07
107	**Tees Valley (England)**	81.5	-0.08
108	**Blaenau Gwent (Wales)**	79.2	-0.08
109	**Isle of Anglesey (Wales)**	79.2	-0.08
110	**East Ayrshire (Scotland)**	78.9	-0.08
111	**Caerphilly (Wales)**	80.6	-0.08
112	**South Yorkshire (England)**	80.9	-0.10
113	**Merseyside (England)**	80.5	-0.10
114	**Merthyr Tydfil (Wales)**	79.7	-0.11
115	**Inverclyde (Scotland)**	79.6	-0.11
116	**North Ayrshire (Scotland)**	79.7	-0.12

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